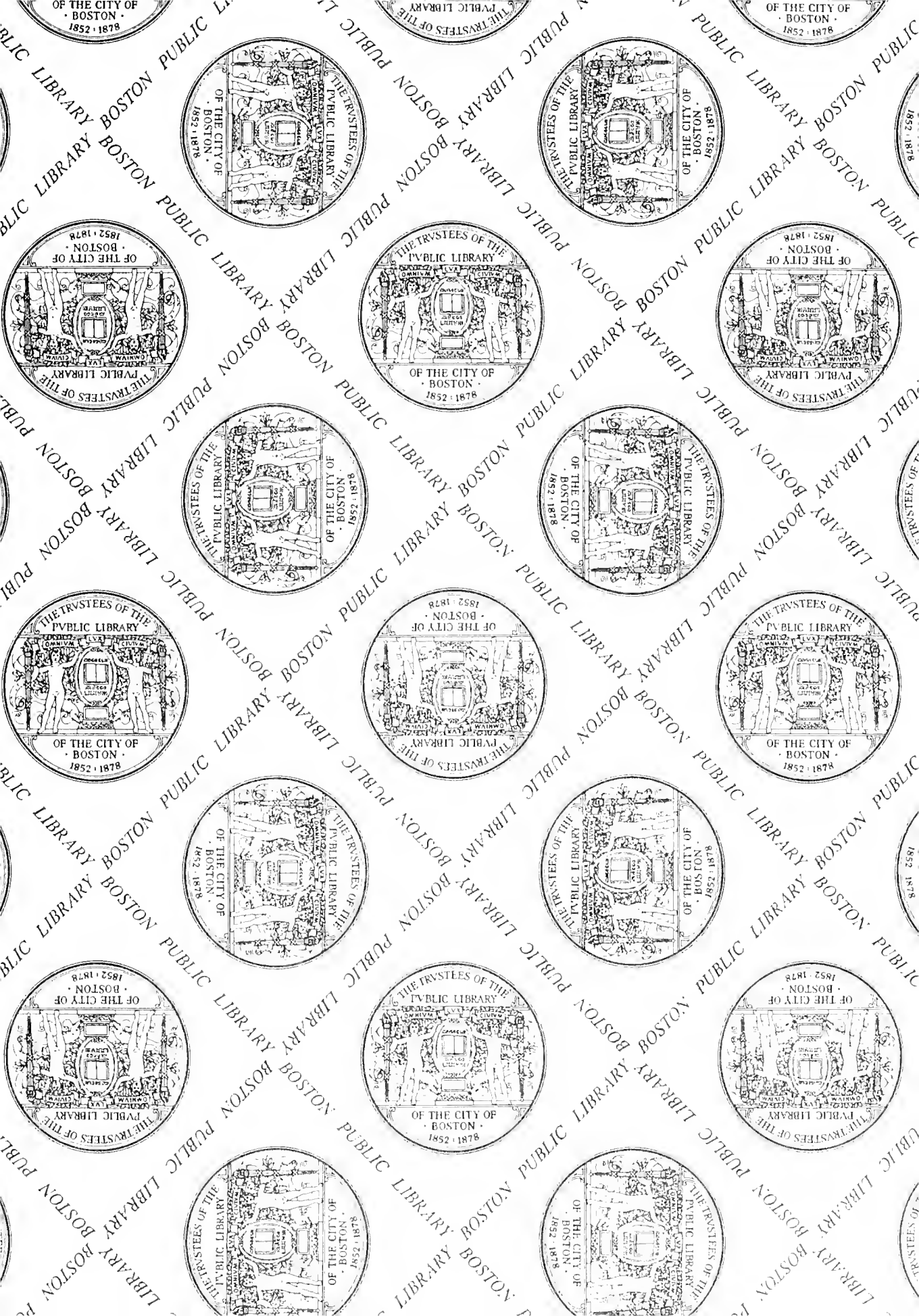


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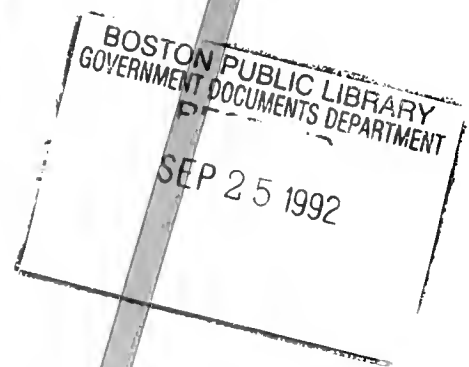












# 1989 Annual Report

## Vital Statistics of Massachusetts

Massachusetts Department of Public Health  
Public Document No. 1

GOVDOC  
6457  
.1







**William F. Weld**  
Governor  
**David P. Forsberg**  
Secretary  
**David H. Mulligan**  
Commissioner

# *The Commonwealth of Massachusetts*

*Executive Office of Health and Human Services*

*Department of Public Health*

*Bureau of Health Statistics, Research and Evaluation*

*Registry of Vital Records and Statistics*

*150 Tremont Street - Room B-8*

*Boston, Massachusetts 02111*

February 1992

To the Honorable Senate and  
House of Representatives:

We have the honor to submit as required by Chapter 111, Section 2 of the General Laws, the one hundred forty-eighth annual report on statistics of births, deaths, fetal deaths, marriages and divorces in Massachusetts for the calendar year 1989.

This is the twenty-sixth **ANNUAL REPORT OF VITAL STATISTICS** published by the Department of Public Health and is intended to assist in the development of policy and programmatic initiatives within the Department, as well as to provide State officials and agencies, and the general public, with valuable statistical information.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Mulligan', with a long horizontal stroke extending to the right.

David H. Mulligan  
Commissioner



# **ANNUAL REPORT VITAL STATISTICS OF MASSACHUSETTS PUBLIC DOCUMENT #1 1989**

**THE COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF PUBLIC HEALTH**

**WILLIAM F. WELD, GOVERNOR  
DAVID P. FORSBERG, SECRETARY OF HEALTH AND HUMAN SERVICES  
DAVID H. MULLIGAN, COMMISSIONER OF PUBLIC HEALTH**

**DANIEL J. FRIEDMAN, PH.D., ASSISTANT COMMISSIONER,  
BUREAU OF HEALTH STATISTICS, RESEARCH AND EVALUATION**

**ELAINE B. TRUDEAU, REGISTRAR,  
REGISTRY OF VITAL RECORDS AND STATISTICS**

**150 TREMONT STREET  
BOSTON, MASSACHUSETTS 02111**

**FEBRUARY 1992**

**Publication of this document approved by Ric Murphy, State Purchasing Agent**



## **ACKNOWLEDGEMENTS**

**This publication of the 1989 ANNUAL REPORT OF VITAL STATISTICS is the result of the combined efforts of all data providers, including the 351 city and town clerks, hospital personnel, physicians, funeral directors, probate courts, clinics, and Department of Public Health personnel. We gratefully acknowledge the assistance provided by all data providers, without whose efforts there would be no vital statistics.**

**Department of Public Health staff most significantly involved in the production of the 1989 ANNUAL REPORT OF VITAL STATISTICS include:**

Robert Danley, Bureau of Health Statistics, Research and Evaluation: population statistics;

Joan Gancarski, Bureau of Health Statistics, Research and Evaluation: assistance and technical data from Advance Data: Births 1989 and Advance Data: Deaths 1989;

Michael Healey, Division of Data Processing: data file management and vital events series printouts;

Duke Rhoden, Bureau of Health Statistics, Research and Evaluation: supervision of computer graphics and special table production, with programming by Robert S. Woodburn and Charlene Zion;

Dennis Sterzin and Roger Davenport, Graphic Design Center: graphics layout and assistance;

Phyllis Zeuli, Assistant Registrar for Statistics: supervision of data collection, coding and editing, with technical assistance from Lisa Varnerin (Statistics Unit Supervisor) and Robert Coffin (Chief Nosologist).

**The joint efforts of all the staff of the Registry of Vital Records and Statistics are necessary to produce the data contained in this publication. Special acknowledgement is made to the following Registry supervisors:**

Karin Barrett, Data Quality Assurance Coordinator, who oversees the hospital query program for birth certificate data and provides assistance in developing specialized table production;

Alan Goldin, Director of Automation, who is responsible for the installation and supervision of the Automated Vital Statistics System (AVSS) and all computer-based systems in the Registry office;

Harold Leonard, Supervisor of the Records Unit, which is responsible for maintaining all records and issuing certified copies;

James Orseno, Supervisor of the Operations Unit, which is responsible for all printing and mailing of forms;

Phyllis Rotman, Supervisor of the Registration Unit, which is responsible for coordination with cities and towns to produce the data in a timely fashion.

**The 1989 ANNUAL REPORT OF VITAL STATISTICS has been compiled and produced under the general supervision and direction of:**

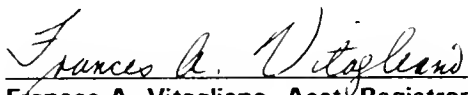
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Editor**

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## **INTRODUCTION**

The **ANNUAL REPORT OF VITAL STATISTICS (Public Document No. 1)** has been continuously published since 1842. This is the 26th edition produced by the Department of Public Health. This report, required under the provisions of Chapter 111, section 2, of the Massachusetts General Laws, tabulates data on Massachusetts births, fetal deaths, deaths, marriages, divorces, and population for calendar year 1989. Approximately 2,000 copies of the report are distributed to federal, state, and local governmental agencies, private and public health planners and researchers, students, and members of the general public. The report provides its users with an overview of the health status of the Massachusetts population.

Vital statistics data may be tabulated either in terms of resident data or occurrence data. Resident data include all events which occur to residents of the Commonwealth, wherever the events occur. Occurrence data include all those events which occur within the state, including those which occur to out-of-state residents. There is an interstate exchange of copies of birth, death and fetal death records among the fifty states, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and all Canadian provinces. These records are exchanged for statistical purposes only, for events which occur in states other than where the individual resides. This exchange allows each of the states and provinces to track the births and deaths of their residents. The majority of the data presented in this report for births and deaths is based on resident data. Marriage and divorce data, however, only reflect events which occurred within the Commonwealth.

## **REGISTRATION**

The first government-operated system of vital events registration anywhere in the world began in the Commonwealth of Massachusetts in 1639 under colonial administration. Prior to that time, in countries such as England with a vital registration system, the responsibility for the registration of vital events had been placed on church officials. The Massachusetts system mandated the registration of vital events by the clerks of the communities. In 1842, the Massachusetts legislature established the first statewide coordination for the registration of these events by requiring that copies of the events registered in the local cities and towns be sent to the Secretary of State. The first year of collection was designated for 1841. In 1976, the responsibility for the state coordination was transferred to the Department of Public Health. This was accomplished to rejoin the statistical and registration functions which had been separated by the 1964 transfer of the statistical function to the Department of Public Health. With the exception of the administrative location of the State Registry, the actual mechanics of the system have changed remarkably little over the years.

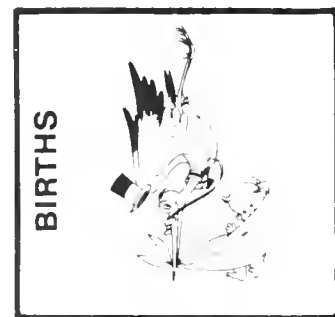
With limited exceptions, most vital records in Massachusetts are open, public records. The figure on the next page illustrates the registration process in Massachusetts. For open birth and death records, there is a triple registration process in Massachusetts. The event is first recorded in the city or town where the event occurred. The clerk of that community is then required to forward a certified copy of the record to both the community where the person resided at the time of the event and to the State Registry. Certified copies of the records may be issued from local or state records. If the record is a restricted record, such as those of out-of-wedlock births, the registration occurs only in the community where the event occurred and in the state office.

In addition to receiving a legal copy of each birth record from the city or town in which the birth occurred, the State Registry also receives a confidential copy of the birth record directly from the hospital or birth center where the birth occurred. This copy includes confidential medical information in addition to the legal information. It is this copy of the record which is processed to produce the statistical information on births contained in this report.

# The Vital Records and Statistics Process

PRODUCT

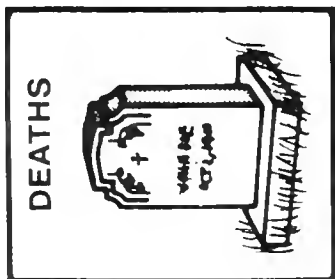
PROCESS



BIRTHS



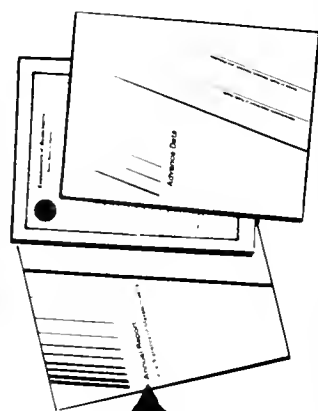
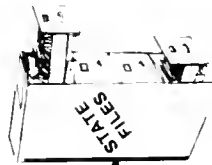
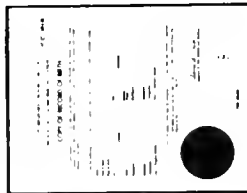
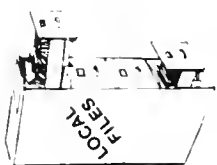
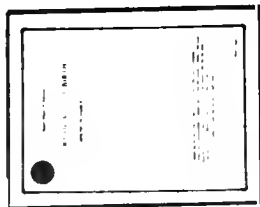
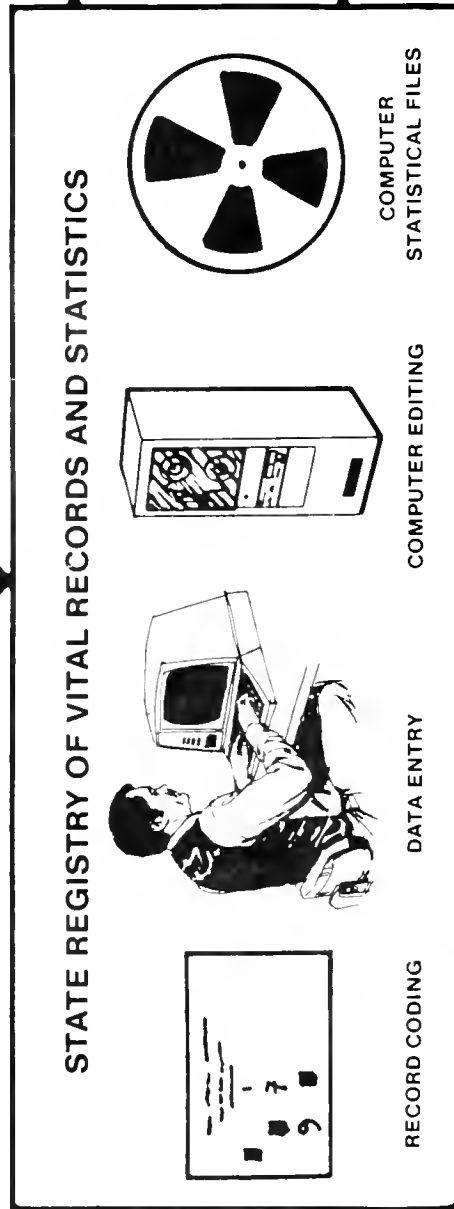
MARRIAGES



DEATHS



CITY AND TOWN CLERKS



Since 1986, the State Registry has developed a program of direct electronic transmission of birth records from hospitals. The system used in Massachusetts is called the Automated Vital Statistics System (AVSS). It was developed at the University of California, Santa Barbara. More than 50 percent of all birth records are now received through this method. AVSS has contributed to reducing processing time at both the hospital and the State Registry, while the built-in edits of the system increase the quality of the data.

Anyone wishing to be married in the Commonwealth may receive a marriage license from any of the 351 cities or towns in the state, regardless of residence or where the marriage is to take place in the Commonwealth. The community issuing the license is required to send an attested copy of the marriage record to the State Registry.

The Registry of Vital Records and Statistics receives directly from hospitals or physicians the reports of fetal deaths of either twenty or more weeks gestation or a weight of at least 350 grams. There are no local filings of fetal death reports.

Abstracts of divorces granted are also sent directly to the State Registry from the Registers of Probate from each county probate court.

### **STATISTICAL PROCESSING AND TABULATING**

The records received in the State Registry are carefully examined for legal errors and inconsistencies. As part of the computerization process, significant computer editing is also done. A computerized hospital query program is part of the AVSS program. The Registry also has a data quality assurance program that includes on-site instruction for clerks and hospital personnel who have reporting difficulties, and training for all groups involved in the data collection process.

Annually, when registration is considered as complete as possible, statistics are aggregated for presentation in this report, special studies, and program monitoring and surveillance.

Anyone using statistical information for comparisons over time should be aware of inconsistencies and changing conventions for classification and coding. This is particularly important when using cause of death information. Codes used for classifying cause of death in this report are based on the Ninth Revision of the International Classification of Diseases, World Health Organization. Classification of variables such as race, nativity, and marital status may also differ over time.

It is hoped that this report will be useful to a wide range of health data users in the Commonwealth, as well as to educational planners, demographers, and historians. Questions concerning these data and requests for more detailed findings should be directed to:

Massachusetts Department of Public Health  
Bureau of Health Statistics, Research and Evaluation  
150 Tremont Street  
Boston, Massachusetts 02111  
(617) 727-DATA





# VITAL EVENTS



## **SECTION A**

### **VITAL EVENTS**

#### **HIGHLIGHTS**

##### **BIRTHS**

- In 1989, there were 91,314 births to Massachusetts residents.
- Births increased by 3.7% from 1988 to 1989.
- The 1989 birth rate in Massachusetts per 1,000 population was 15.5, an increase from 15.0 in 1988.
- Massachusetts' 1989 birth rate of 15.5 per 1,000 population remains below the 1989 U.S. rate of 16.3.
- The most births occurred in July (9.0%—8,198); the fewest occurred in February (7.4%—6,788).

##### **DEATHS**

- In 1989, 53,748 Massachusetts residents died.
- The number of deaths decreased by 4.7% from 1988 to 1989.
- The rate of deaths per 1,000 population decreased from 9.6 in 1988 to 9.2 in 1989.
- The U.S. death rate decreased in 1989 to 8.7 from 8.8 in 1988. (Differences between the crude death rates in Massachusetts and the U.S. may reflect differences in the age distribution of the population.)
- The most deaths occurred in December (9.4%—5,082); the fewest occurred in September (7.4%—3,956).

##### **FETAL DEATHS**

- There were 542 reportable fetal deaths to Massachusetts residents in 1989.
- Reportable fetal deaths increased by 2.5% from 1988 to 1989, resulting in a fetal death rate of 5.9 per 1,000 live births and fetal deaths.

## **INFANT DEATHS**

- In 1989, 697 infant deaths (less than 1 year of age) occurred to Massachusetts residents.
- The Massachusetts infant mortality rate decreased from 7.9 deaths per 1,000 live births in 1988 to 7.6 deaths in 1989.
- The black infant mortality rate decreased from 17.2 in 1988 to 15.5 in 1989.
- The Massachusetts 1989 infant mortality rate of 7.6 per 1,000 live births was 28.9% below the U.S. rate of 9.8.

## **MARRIAGES**

- In 1989, there were 49,174 marriages in Massachusetts.
- The number of marriages decreased by 1.5% from 1988 to 1989. Nationally, the number of marriages decreased by 0.6% during the same period.
- The 1989 Massachusetts rate of 8.4 marriages per 1,000 population was below the U.S. rate of 9.7.
- The largest number of 1989 marriages occurred in the month of September. In September 1989, there were 7,102 occurrence marriages (14.4% of all marriages), and the fewest occurred in January (1,526--3.1%).

## **DIVORCES**

- In 1989, 16,819 divorces were granted in Massachusetts.
- Divorces in Massachusetts decreased by 4.8% from 1988 to 1989.
- The 1989 Massachusetts divorce rate of 2.9 divorces per 1,000 population was below the U. S. rate of 4.7.
- The largest number of divorces was finalized in August with 1,555 (9.2%), and the fewest in November (1,244--7.4%).

## **NATURAL INCREASE**

- The rate of natural increase in Massachusetts increased to 6.4 per 1,000 residents in 1989 from a rate of 5.4 in 1988.
- The 1989 U.S. rate of 7.5 remains above that of Massachusetts.

The Vital Events section provides basic information on all vital events. In addition to the information highlighted above, this section contains summary birth and death data by city, town and county. More detailed information is contained in the sections on the individual events.

**DEFINITIONS AND RATES IMPORTANT FOR THIS SECTION INCLUDE:**

**OCCURRENCE** Occurrence data reflect where the event took place without regard to residence. In Massachusetts, place will be one of 351 cities or towns.

**RESIDENCE** The usual place of residence as reported by the mother (for births) or the informant (for deaths). An infant's residence is considered that of the mother. While occurrence data include only events that occurred within Massachusetts, residence data for births and deaths include those which may or may not have occurred within Massachusetts.

**NATURAL INCREASE** The difference between the number of resident live births and the number of resident deaths.

**CRUDE RATES OF VITAL EVENTS**

**BIRTH RATE** 
$$\frac{\text{No. of Resident Live Births}}{\text{Total Population}} \times 1,000$$

**FETAL MORTALITY** 
$$\frac{\text{No. of Resident Fetal Deaths}}{\text{Resident Live Births} + \text{Resident Fetal Deaths}} \times 1,000$$

**INFANT MORTALITY** 
$$\frac{\text{No. of Resident Deaths} < 1 \text{ Year}}{\text{Resident Live Births}} \times 1,000$$

**NEONATAL MORTALITY** 
$$\frac{\text{No. of Resident Deaths} < 28 \text{ Days}}{\text{Resident Live Births}} \times 1,000$$

**DEATH RATE** 
$$\frac{\text{No. of Resident Deaths}}{\text{Total Population}} \times 1,000$$

**MARRIAGE RATE** 
$$\frac{\text{No. of Occurrence Marriages}}{\text{Total Population}} \times 1,000$$

**DIVORCE RATE** 
$$\frac{\text{No. of Occurrence Divorces}}{\text{Total Population}} \times 1,000$$



**TABLE A-1  
SELECTED FACTS IN VITAL STATISTICS  
MASSACHUSETTS: 1989**

**NATALITY**

**Ages of Mothers:** 13 - 53 years

**Ages of Fathers:** 14 - 73 years

**Sets of Twins:** 1,087

**Sets of Quadruplets:** 3

**Sets of Triplets:** 24

**Most Births Occurred on:** July 25, 1989 (325 births)

**Fewest Births Occurred on:** December 25, 1989 (161 births)

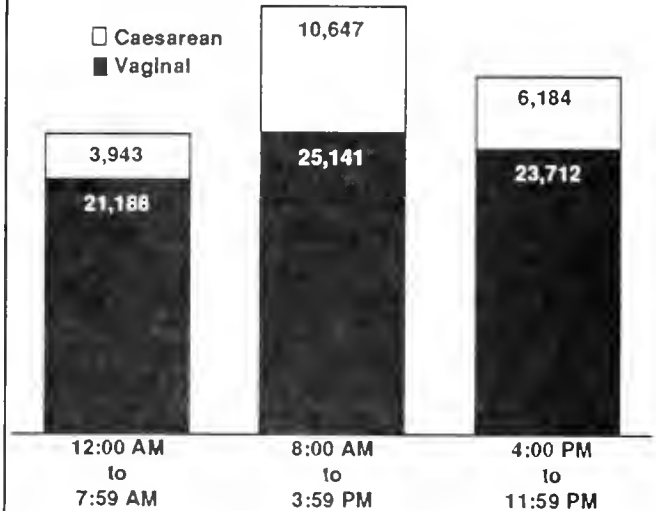
**Highest # of Births at:** Brigham and Women's Hospital (10,277 births)

**Lowest # of Births at:** Nantucket Cottage Hospital (82 births)

**Ten Most Popular Names For Babies**

<i>Boys' Names</i>	<i>Number</i>	<i>Girls' Names</i>	<i>Number</i>
Michael	2,185	Ashley	1,043
Christopher	1,573	Jessica	1,022
Matthew	1,421	Amanda	991
Daniel	1,131	Sarah	811
Nicholas	1,016	Samantha	774
Andrew	1,015	Jennifer	678
John	966	Nicole	673
Joseph	924	Stephanie	648
David	909	Elizabeth	612
Ryan	889	Lauren	604

**Number of Births Occurring at Specified Times of Day when Delivery Method is Known\***



\* Unknown delivery methods = 483  
Unknown times of birth = 16

**MORTALITY**

**Male Decedents 100 Years and Older:** 65

**Female Decedents 100 Years and Older:** 318

**Most Deaths Occurred on:** December 30, 1989 (197 deaths)

**Fewest Deaths Occurred on:** May 23, 1989 (99 deaths)

**Month most Suicides Occurred:** August (60)

**Month most Homicides Occurred:** November (29)

**Month most Motor Vehicle Deaths Occurred:** January (84)

**Weekday Most Deaths Occurred:** Sunday (7,891 deaths)

**Weekday Fewest Deaths Occurred:** Thursday (7,533 deaths)

**MARRIAGE**

**Ages of Brides:** 14 - 87 years

**Ages of Grooms:** 15 - 91 years

**Most Popular Month for Marriages:** September (7,102 marriages)

**Least Popular Month for Marriages:** January (1,526 marriages)

**Greatest Age Difference When Bride Older than Groom:** 39 years

**Greatest Age Difference When Groom Older than Bride:** 62 years

**DIVORCE**

**Length of Marriages Involved in Divorces:**  
<1 Year to 54 Years of Marriage

**Most Common Length of Marriage Prior to Divorce:** 4 Years

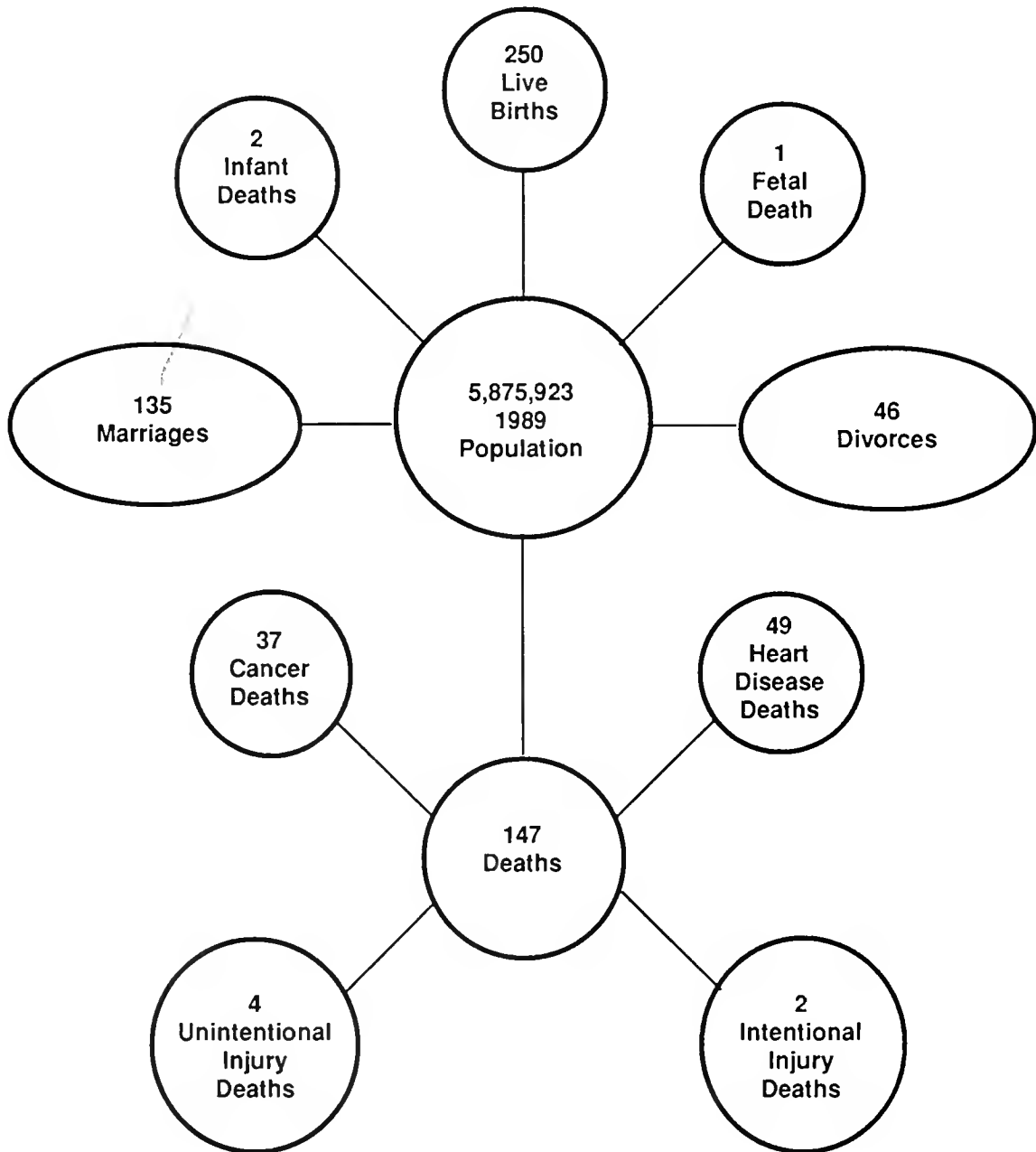
**Month Most Divorces Granted:** August (1,555 divorces)

**Month Fewest Divorces Granted:** November (1,244 divorces)

FIGURE A-1

1989 MASSACHUSETTS VITAL EVENTS

Each day Massachusetts residents had approximately:





**TABLE A-2**  
**NUMBER AND CRUDE RATES OF VITAL EVENTS**  
**MASSACHUSETTS AND UNITED STATES**  
**1988-1989**

VITAL EVENT	MASSACHUSETTS					UNITED STATES				
	1989		1988		% Change	1989 <sup>1</sup>		1988 <sup>2</sup>		% Change
	Number	Rate	Number	Rate		Number	Rate	Number	Rate	
BIRTHS	91,314	15.5	88,047	15.0	+ 3.3	4,040,958	16.3	3,909,510	15.9	+2.5
FETAL DEATHS	542	5.9	529	6.0	-1.7	NA <sup>3</sup>	NA	29,442	7.5	NA
TOTAL DEATHS	53,748	9.2	56,407	9.6	-4.2	2,150,466	8.7	2,167,999	8.8	-1.1
Infant Deaths	697	7.6	693	7.9	-3.8	39,655	9.8	38,910	10.0	-3.0
Neonatal Deaths	479	5.2	477	5.4	-3.7	25,168	6.2	24,690	6.3	0.0
MARRIAGES	49,174	8.4	49,941	8.5	-1.2	2,404,000	9.7	2,395,926	9.7	0.0
DIVORCES	16,819	2.9	17,676	3.0	-3.3	1,163,000	4.7	1,167,000	4.7	0.0

**NOTES:**

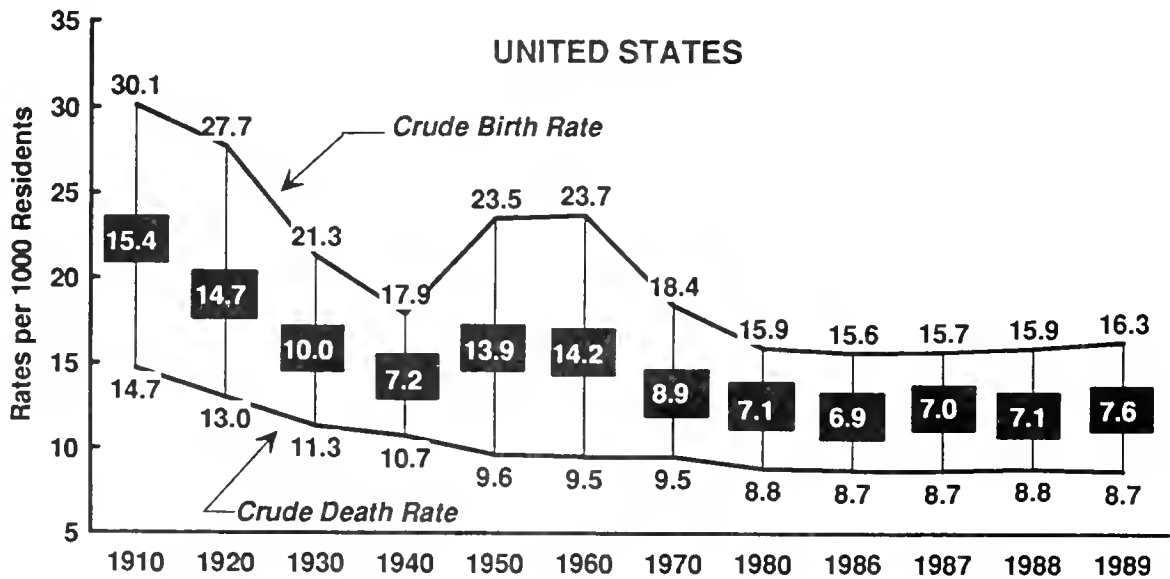
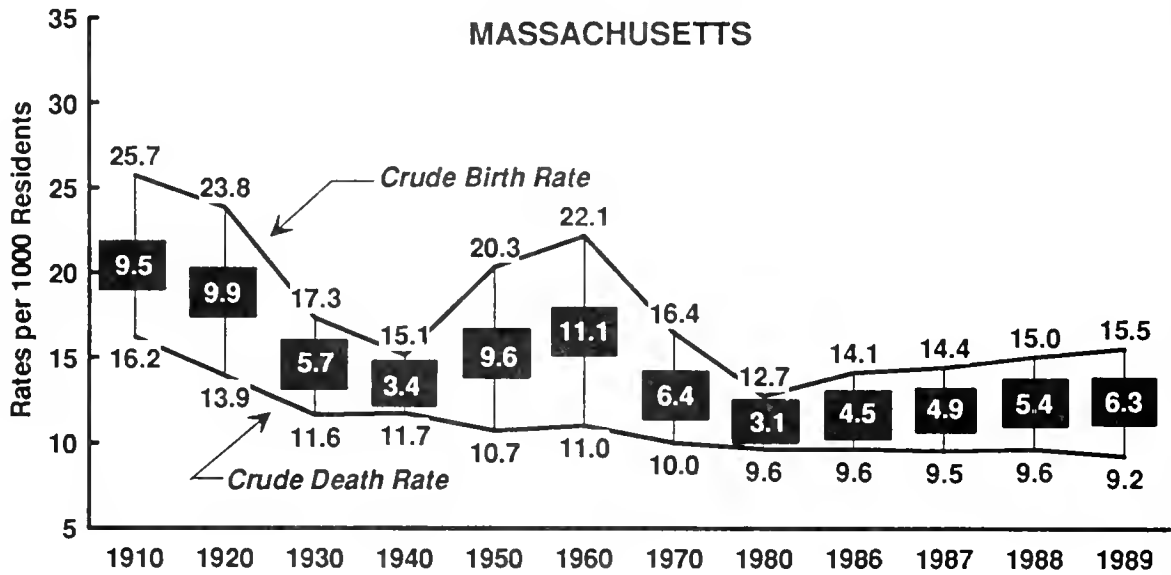
Neonatal and infant deaths are included in total deaths; neonatal deaths are included in infant deaths; fetal deaths are excluded from total deaths.  
 Figures for marriages and divorces reflect occurrence, not residence.  
 The rates for live births, total deaths, marriages and divorces are per 1,000 population.  
 Rates for infant and neonatal deaths are per 1,000 live births.  
 Rates for fetal deaths are per 1,000 live births and fetal deaths.

<sup>1</sup> United States numbers and rates for 1989 are final (except for the Marriage and Divorce numbers and rates, which are provisional).  
<sup>2</sup> United States numbers and rates for 1988 are final.

<sup>3</sup> Not available

FIGURE A-2

# RATE OF NATURAL INCREASE 1910 - 1989



**TABLE A-3  
MASSACHUSETTS RESIDENT BIRTHS AND DEATHS  
WITH RESULTANT NATURAL INCREASE  
1900-1989**

<b>YEAR</b>	<b>BIRTHS</b>	<b>DEATHS</b>	<b>NATURAL INCREASE</b>	<b>RATE/ 1,000 RESIDENTS</b>
1900	73,386	51,156	22,230	7.9
1905	75,022	50,486	24,536	8.2
1910	86,539	54,407	32,132	9.5
1915	93,155	53,131	40,024	10.8
1920	91,859	53,632	38,227	9.9
1925	86,014	51,890	34,124	8.2
1930	73,690	49,503	24,187	5.7
1935	62,416	49,634	12,782	2.9
1940	65,369	50,698	14,671	3.4
1945	76,455	50,763	25,692	5.7
1950	95,619	50,359	45,260	9.6
1955	109,610	53,386	56,224	11.6
1960	114,018	56,560	57,458	11.2
1965	100,262	58,853	41,409	7.8
1970	93,582	56,944	36,638	6.4
1975	68,070	53,708	14,362	2.5
1980	72,591	54,934	17,657	3.1
1981	73,930	52,813	21,117	3.7
1982	75,749	52,867	22,882	4.0
1983	76,031	54,150	21,881	3.8
1984	78,197	55,189	23,008	4.0
1985	81,781	55,597	26,184	4.5
1986	82,168	55,860	26,308	4.5
1987	84,345	55,562	28,783	4.9
1988	88,047	56,407	31,640	5.4
1989	91,314	53,748	37,566	6.4

**TABLE A-4**  
**VITAL EVENTS BY MONTH**  
**MASSACHUSETTS RESIDENTS**  
**1989**

TOTALS		BIRTHS	FETAL DEATHS <sup>1</sup>	DEATHS	Infant Deaths <sup>2</sup>	Neonatal Deaths <sup>2</sup>	MARRIAGES	DIVORCES
		91,314	542	53,748	697	479	49,174	16,819
JANUARY	#	7,031	48	4,961	64	42	1,526	1,358
	Rank	11	3	3	3	5	12	9
FEBRUARY	#	6,788	47	4,510	53	34	2,073	1,372
	Rank	12	4	5	5	7	10	8
MARCH	#	7,840	42	5,038	53	30	1,921	1,426
	Rank	6	8	2	5	9	11	4
APRIL	#	7,499	53	4,572	53	37	4,147	1,314
	Rank	8	2	4	5	6	7	11
MAY	#	7,969	43	4,238	66	45	5,268	1,382
	Rank	3	7	8	1	2	4	7
JUNE	#	7,903	43	4,132	58	44	5,956	1,453
	Rank	5	7	11	4	3	2	3
JULY	#	8,198	43	4,155	58	45	4,483	1,420
	Rank	1	7	10	4	2	6	5
AUGUST	#	8,153	39	4,212	45	34	4,962	1,555
	Rank	2	9	9	7	7	5	1
SEPTEMBER	#	7,916	46	3,956	66	50	7,102	1,553
	Rank	4	5	12	1	1	1	2
OCTOBER	#	7,627	55	4,488	65	42	5,871	1,408
	Rank	7	1	6	2	5	3	6
NOVEMBER	#	7,045	44	4,404	51	33	3,351	1,244
	Rank	10	6	7	6	8	8	12
DECEMBER	#	7,345	39	5,082	65	43	2,514	1,334
	Rank	9	9	1	2	4	9	10

<sup>1</sup>Fetal deaths are not included in BIRTHS or DEATHS.

<sup>2</sup>Infant deaths and neonatal deaths are included in total resident deaths; neonatal deaths are included in infant deaths.

VITAL EVENTS BY COMMUNITY  
1989

COMMUNITY	POPULATION (1)	LIVE BIRTHS		DEATHS		INFANT DEATHS		MARRIAGES		RESIDENT NATURAL INCREASE
		OCCURRENCE :	RESIDENT :	OCCURRENCE :	RESIDENT :	TOTAL :	NEONATAL (2)	LICENSES : ISSUED :	OCCURRENCE (3) :	
STATE TOTAL	5875923	93361	91314	54520	53748	697	479	49174	49174	37566
ABINGTON	14096	1	209	47	127	2	2	105	243	82
ACTON	17308	4	232	49	96	1	1	158	146	136
ACUSHNET	9173	0	99	17	70	2	2	69	44	29
ADAMS	9989	0	119	29	141	0	0	77	79	-22
AGAWAM	27242	0	353	176	239	1	1	219	239	114
ALFORD	397	0	3	1	4	0	0	2	3	-1
AMESBURY	14643	0	280	162	135	2	0	119	92	145
AMHERST	33639	5	198	48	105	1	0	172	167	93
ANDOVER	27045	0	360	63	198	1	0	221	285	162
ARLINGTON	43289	1	545	456	504	3	3	342	230	41
ASHBURNHAM	5296	1	92	2	28	1	1	25	34	64
ASHBY	2932	0	41	2	14	0	0	9	20	27
ASHFIELD	1560	1	24	2	17	0	0	13	26	7
ASHLAND	11973	1	262	10	72	2	2	84	75	190
ATHOL	10841	3	178	124	124	0	0	111	91	54
ATTLEBORO	35355	977	744	482	323	4	2	348	280	421
AUBURN	14300	0	167	23	141	4	3	130	114	26
AVON	4743	0	58	9	37	0	0	59	56	21
AYER	6774	0	299	139	45	5	5	229	187	254
BARNSTABLE	39030	1261	553	930	508	1	1	393	516	45
BARRE	4453	1	80	9	38	1	1	26	50	42
BECKET	1726	0	26	2	11	0	0	5	7	15
BEDFORD	12293	0	249	163	108	0	0	112	118	141
BELCHERTOWN	10588	1	160	14	62	4	2	69	69	98
BELLINGHAM	14235	0	279	14	86	3	3	114	111	193
BELMONT	24495	1	248	68	238	3	2	254	229	10
BERKLEY	4173	0	60	3	12	0	0	8	17	48
BERLIN	2236	0	29	3	17	0	0	6	10	12
BERNARDSTON	1823	0	27	4	15	0	0	16	27	12
BEVERLY	36279	1823	541	564	388	5	2	352	378	153
BILLERICA	38035	1	588	76	234	5	3	223	203	354
BLACKSTONE	7372	2	139	20	53	0	0	55	37	86

(1) POPULATION DATA PROVIDED BY THE MASSACHUSETTS INSTITUTE FOR SOCIAL AND ECONOMIC RESEARCH (MISER).

(2) INFANT AND NEONATAL DEATHS ARE INCLUDED IN TOTAL RESIDENT DEATHS.

(3) MARRIAGE INTENTIONS MAY BE FILED IN ANY MASSACHUSETTS COMMUNITY, REGARDLESS OF WHERE THE BRIDE AND GROOM RESIDE OR WHERE THE MARRIAGE CEREMONY OCCURS.

(4) MARRIAGE FIGURES REFLECT OCCURRENCE, NOT RESIDENCE.

TABLE A-4A  
VITAL EVENTS BY COMMUNITY  
1989

COMMUNITY	POPULATION (1)	LIVE BIRTHS OCCURRENCE : RESIDENT :	DEATHS OCCURRENCE : RESIDENT :	INFANT DEATHS TOTAL : NEONATAL (2)	MARRIAGES LICENSES : OCCURRENCE ISSUED : (3) : (4)	RESIDENT NATURAL INCREASE
STATE TOTAL	5875923	93361 : 91314 :	54520 : 53748 :	697 : 479 :	49174 : 49174 :	37566
BLANDFORD	1167	0	0	0	8	3
BOLTON	2962	0	3	0	12	17
BOSTON	573096	22470	9331	108	5314	4973
BOURNE	16808	1	75	1	141	123
BOXBOROUGH	3058	0	1	0	8	37
BOXFORD	6432	1	6	0	20	46
BOYLSTON	3541	0	24	0	20	27
BRAINTREE	34855	0	326	4	24	3
BREWSTER	7501	1	391	0	295	32
BRIDGEWATER	19925	1	71	0	133	155
BRIEFIELD	2825	0	39	0	54	18
BROCKTON	96782	1219	116	1	134	1065
BROOKFIELD	2883	1	16	14	0	17
BROOKLINE	52597	6	869	1	761	102
BUCKLAND	1925	0	26	4	13	12
BURLINGTON	22732	1	519	0	373	175
CAMBRIDGE	88918	2144	13	0	21	448
CANTON	18397	2	118	10	235	82
CARLISLE	4435	2	782	1	1005	151
CARVER	11533	1	162	2	158	31
CHARLEMONT	1235	0	17	2	18	74
CHARLTON	8614	0	83	0	46	11
CHATHAM	6511	1	15	0	6	-1
CHELMSFORD	31657	2	68	0	44	84
CHELSEA	25696	2	105	0	71	-50
CHESHIRE	3323	0	184	2	309	265
CHESTER	1227	0	336	7	256	362
CHESTERFIELD	1321	0	36	1	17	9
CHICOPEE	56573	1	10	0	5	7
CHILMARK	671	0	9	0	5	4
CLARKSBURG	1775	0	641	8	425	148
CLINTON	12469	0	5	0	16	3
		0	13	0	1	7
		0	113	0	118	120

(1) POPULATION DATA PROVIDED BY THE MASSACHUSETTS INSTITUTE FOR SOCIAL AND ECONOMIC RESEARCH (MISER).

(2) INFANT AND NEONATAL DEATHS ARE INCLUDED IN TOTAL RESIDENT DEATHS.

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(4) MARRIAGE FIGURES REFLECT OCCURRENCE, NOT RESIDENCE.

TABLE A-4A  
VITAL EVENTS BY COMMUNITY  
1989

COMMUNITY	POPULATION (1)	LIVE BIRTHS		DEATHS		INFANT DEATHS		MARRIAGES		RESIDENT NATURAL INCREASE
		OCCURRENCE :	RESIDENT :	OCCURRENCE :	RESIDENT :	TOTAL (2)	NEONATAL (2)	LICENSES : ISSUED : (3)	OCCURRENCE : (4)	
STATE TOTAL	5875923	93361	91314	54520	53748	697	479	49174	49174	37566
COHASSET	7277	0	94	25	51	2	2	65	130	43
COLRAIN	1703	2	36	4	13	0	0	19	16	23
CONCORD	16394	1982	160	317	119	1	1	171	188	41
CONWAY	1435	0	19	6	8	0	0	3	7	11
CUMMINGTON	872	0	12	1	11	0	0	3	14	1
DALTON	6395	0	79	26	74	0	0	53	60	5
DANVERS	23901	494	296	347	278	4	3	215	353	18
DARTMOUTH	25916	0	225	76	214	1	1	122	162	11
DEDHAM	23185	1	322	71	266	1	1	384	267	56
DEERFIELD	4795	0	64	25	39	1	0	29	51	25
DENNIS	14751	1	158	113	192	3	2	112	89	-34
DIGHTON	5492	0	70	14	47	0	0	38	43	23
DOUGLAS	4926	0	80	2	29	0	0	23	21	51
DOVER	4821	0	61	1	20	0	0	27	31	41
DRACUT	24992	0	428	18	152	5	3	169	160	276
DUDLEY	8975	0	127	15	66	0	0	84	64	61
DUNSTABLE	2212	0	27	6	11	0	0	11	8	16
DUXBURY	14446	0	162	45	85	0	0	72	100	77
EAST BRIDGEWATER	10538	1	154	23	81	0	0	64	122	73
EAST BROOKFIELD	1787	1	17	2	16	0	0	14	29	1
EAST LONGMEADOW	12840	0	139	89	126	3	1	117	96	13
EASTHAM	4548	1	46	10	48	0	0	27	32	-2
EASTHAMPTON	16897	2	239	25	131	2	2	152	122	108
EASTON	20342	0	253	42	109	0	0	142	215	144
EDGARTOWN	3166	0	52	9	31	1	0	76	135	21
EGREMONT	1310	1	11	0	13	0	0	3	5	-2
ERVING	1451	0	20	1	8	0	0	4	5	12
ESSEX	2954	1	48	4	19	0	0	17	20	29
EVERETT	36058	1	567	456	391	2	2	351	274	176
FAIRHAVEN	15829	0	203	71	169	1	1	127	127	34
FALL RIVER	89598	2077	1505	1479	1130	12	8	820	743	375
FALMOUTH	26283	641	364	383	264	3	3	252	353	100

(1) POPULATION DATA PROVIDED BY THE MASSACHUSETTS INSTITUTE FOR SOCIAL AND ECONOMIC RESEARCH (MISER).

(2) INFANT AND NEONATAL DEATHS ARE INCLUDED IN TOTAL RESIDENT DEATHS.

(3) MARRIAGE INTENTIONS MAY BE FILED IN ANY MASSACHUSETTS COMMUNITY, REGARDLESS OF WHERE THE BRIDE AND GROOM RESIDE OR WHERE THE MARRIAGE CEREMONY OCCURS.

(4) MARRIAGE FIGURES REFLECT OCCURRENCE, NOT RESIDENCE.

TABLE A-4A  
VITAL EVENTS BY COMMUNITY  
1989

COMMUNITY	POPULATION (1)	LIVE BIRTHS		DEATHS		INFANT DEATHS		MARRIAGES		RESIDENT NATURAL INCREASE
		OCCURRENCE :	RESIDENT	OCCURRENCE :	RESIDENT	TOTAL	NEONATAL (2)	LICENSES : ISSUED :	OCCURRENCE (4)	
STATE TOTAL	5875923	93361	91314	54520	53748	697	479	49174	49174	37566
FITCHBURG	39259	1061	827	529	471	9	5	309	266	356
FLORIDA	692	0	7	2	7	0	0	3	3	0
FOXBOROUGH	14500	0	188	22	87	0	0	96	94	101
FRAMINGHAM	63762	2195	952	726	616	9	5	617	461	336
FRANKLIN	20436	0	362	38	132	2	2	181	173	230
FREETOWN	8231	0	103	8	30	2	2	31	97	73
GARDNER	18403	381	325	319	219	3	3	193	188	106
GAY HEAD	252	0	1	1	1	0	0	4	14	0
GEORGETOWN	5954	1	91	4	46	1	1	46	46	45
GILL	1320	0	18	5	13	0	0	3	20	5
GLOUCESTER	28107	276	404	259	248	1	0	253	312	156
GOSHEN	776	0	14	3	8	0	0	1	12	6
GOSNOLD	35	0	3	0	1	0	0	0	3	2
GRAFTON	12092	0	204	25	100	2	2	122	109	104
GRANBY	5719	0	73	7	40	1	1	24	40	33
GRANVILLE	1363	0	13	0	6	0	0	4	4	7
GREAT BARRINGTON	7433	161	75	180	99	2	1	107	64	-24
GREENFIELD	17665	940	270	507	264	2	2	242	143	6
GROTON	7489	1	123	12	33	2	1	52	81	90
GROVELAND	5028	0	77	4	23	0	0	36	34	54
HADLEY	4289	1	54	12	22	0	0	31	42	32
HALIFAX	6516	0	99	9	57	3	3	59	48	42
HAMILTON	7095	1	98	9	35	0	0	47	74	63
HAMPDEN	4633	0	46	29	34	0	0	36	34	12
HANCOCK	590	0	8	5	5	0	0	4	9	3
HANOVER	12077	1	171	18	81	0	0	100	118	90
HANSON	9382	1	136	44	57	1	1	62	67	79
HARDWICK	2309	0	48	1	19	1	0	28	21	29
HARVARD	13760	0	53	13	20	0	0	28	40	33
HARWICH	10373	2	103	41	153	2	2	71	121	-50
HATFIELD	3239	1	38	2	35	2	2	13	16	3
HAVERHILL	48787	823	1006	527	500	12	7	419	416	506

(1) POPULATION DATA PROVIDED BY THE MASSACHUSETTS INSTITUTE FOR SOCIAL AND ECONOMIC RESEARCH (MISER).

(2) INFANT AND NEONATAL DEATHS ARE INCLUDED IN TOTAL RESIDENT DEATHS.

(3) MARRIAGE INTENTIONS MAY BE FILED IN ANY MASSACHUSETTS COMMUNITY, REGARDLESS OF WHERE THE BRIDE AND GROOM RESIDE OR WHERE THE MARRIAGE CEREMONY OCCURS.

(4) MARRIAGE FIGURES REFLECT OCCURRENCE, NOT RESIDENCE.



TABLE A-4A  
VITAL EVENTS BY COMMUNITY  
1989

COMMUNITY	POPULATION (1)	LIVE BIRTHS OCCURRENCE : RESIDENT	DEATHS OCCURRENCE : RESIDENT	INFANT DEATHS TOTAL : NEONATAL (2)	MARRIAGES LICENSES : OCCURRENCE ISSUED : (3) : (4)	RESIDENT NATURAL INCREASE
STATE TOTAL	5875923	93361 : 91314	54520 : 53748	697 : 479	49174 : 49174	37566
HAWLEY	418	0	2	0	0	2
HEATH	626	1	0	0	1	8
HINGHAM	20493	2	72	1	193	80
HINSDALE	1769	0	13	0	4	3
HOLBROOK	10808	0	10	0	103	71
HOLDEN	13767	0	141	1	90	58
HOLLAND	1796	0	2	0	5	30
HOLLISTON	12895	1	18	1	104	96
HOLYOKE	41807	1670	887	4	358	388
HOPEDALE	3981	0	25	1	25	54
HOPKINTON	9250	1	42	1	66	118
HUBBARDSTON	2016	2	8	0	12	30
HUDSON	17754	0	19	0	162	167
HULL	9862	2	14	0	82	88
HUNTINGTON	1998	0	2	0	12	16
IPSWICH	11644	1	49	0	101	65
KINGSTON	8959	0	13	0	65	68
LAKEVILLE	8522	0	44	0	51	44
LANCASTER	6204	0	14	2	44	52
LANESBOROUGH	3141	0	26	0	11	18
LAWRENCE	62624	1996	688	18	520	1129
LEE	5996	0	45	0	65	-5
LEICESTER	9733	0	16	0	68	67
LENEX	6599	1	69	3	72	15
LEOMINSTER	35156	1437	333	8	356	377
LEVERETT	1597	2	5	0	9	22
LEXINGTON	27888	1	159	1	249	35
LEYDEN	633	0	4	0	3	6
LINCOLN	7864	0	11	0	36	26
LITTLETON	7218	0	21	0	76	38
LONGMEADOW	16294	0	67	2	108	-8
LOWELL	93864	3139	1372	24	748	1296

(1) POPULATION DATA PROVIDED BY THE MASSACHUSETTS INSTITUTE FOR SOCIAL AND ECONOMIC RESEARCH (MISER).

(2) INFANT AND NEONATAL DEATHS ARE INCLUDED IN TOTAL RESIDENT DEATHS.

(3) MARRIAGE INTENTIONS MAY BE FILED IN ANY MASSACHUSETTS COMMUNITY, REGARDLESS OF WHERE THE BRIDE AND GROOM RESIDE OR WHERE THE MARRIAGE CEREMONY OCCURS.

(4) MARRIAGE FIGURES REFLECT OCCURRENCE, NOT RESIDENCE.

TABLE A-4A  
VITAL EVENTS BY COMMUNITY  
1989

COMMUNITY	POPULATION (1)	LIVE BIRTHS OCCURRENCE : RESIDENT :	DEATHS OCCURRENCE : RESIDENT :	INFANT DEATHS TOTAL : NEONATAL (2)	MARRIAGES LICENSES : OCCURRENCE ISSUED : (3) : (4)	RESIDENT NATURAL INCREASE
STATE TOTAL	5875923	93361 : 91314 :	54520 : 53748 :	697 : 479 :	49174 : 49174 :	37566
LUDLOW	18705	1	152	2	150	40
LUNENBURG	8860	0	16	0	59	66
LYNN	78192	727	844	12	604	782
LYNNFIELD	11294	0	18	9	79	53
MALDEN	53259	1845	392	4	476	264
MANCHESTER	5021	0	15	1	66	11
MANSFIELD	15048	0	87	0	158	233
MARBLEHEAD	18709	0	18	4	198	75
MARION	4344	0	12	0	39	21
MARLBOROUGH	30999	2	324	0	312	322
MARSHFIELD	23210	0	25	0	177	190
MASHPEE	6596	4	39	0	80	87
MATTAPOISETT	6053	0	12	0	56	6
MAYNARD	9936	1	16	0	82	89
MEDFIELD	10768	0	17	0	70	96
MEDFORD	56474	1	336	3	467	121
MEDWAY	9889	0	33	0	62	115
MELROSE	28180	1245	443	0	177	96
MENDON	3580	0	5	0	23	33
MERRIMAC	4923	0	8	0	31	47
METHUEN	40315	1157	662	4	339	210
MIDDLEBOROUGH	18647	2	227	1	161	80
MIDDLEFIELD	468	0	1	0	3	1
MIDDLETON	4938	0	4	1	34	47
MILFORD	24254	648	358	3	220	226
MILLBURY	11775	0	29	1	101	82
MILLIS	7273	0	10	0	52	94
MILLVILLE	2208	0	3	0	20	26
MILTON	25406	0	294	4	178	34
MONROE	129	0	0	0	0	-1
MONSON	7637	0	14	2	53	31
MONTAGUE	8090	0	22	1	43	15

(1) POPULATION DATA PROVIDED BY THE MASSACHUSETTS INSTITUTE FOR SOCIAL AND ECONOMIC RESEARCH (MISER).

(2) INFANT AND NEONATAL DEATHS ARE INCLUDED IN TOTAL RESIDENT DEATHS.

(3) MARRIAGE INTENTIONS MAY BE FILED IN ANY MASSACHUSETTS COMMUNITY, REGARDLESS OF WHERE THE BRIDE AND GROOM RESIDE OR WHERE THE MARRIAGE CEREMONY OCCURS.

(4) MARRIAGE FIGURES REFLECT OCCURRENCE, NOT RESIDENCE.

TABLE A-4A  
VITAL EVENTS BY COMMUNITY  
1989

COMMUNITY	POPULATION (1)	LIVE BIRTHS		DEATHS		INFANT DEATHS		MARRIAGES		RESIDENT NATURAL INCREASE
		OCCURRENCE :	RESIDENT :	OCCURRENCE :	RESIDENT :	TOTAL (2)	NEONATAL (2)	LICENSES : ISSUED : (3) :	OCCURRENCE (4)	
STATE TOTAL	5875923	93361	91314	54520	53748	697	479	49174	49174	37566
MONTEREY	1004	0	14	4	5	0	0	6	13	9
MONTGOMERY	687	0	8	1	6	0	0	0	2	2
MOUNT WASHINGTON	100	0	1	0	1	0	0	2	4	0
NAHANT	3840	0	44	14	33	0	0	30	48	11
NANTUCKET	6248	82	87	71	75	2	2	162	235	12
NATICK	30078	734	432	323	239	5	3	256	182	193
NEEDHAM	27065	2	301	228	239	2	2	213	158	62
NEW ASHFORD	142	0	2	1	2	0	0	1	4	0
NEW BEDFORD	96757	2232	1732	1286	1128	14	8	859	876	604
NEW BRAINTREE	702	0	13	1	4	0	0	6	9	3
NEW MARLBOROUGH	1385	0	18	4	15	0	0	6	19	3
NEW SALEM	904	0	7	2	7	0	0	5	9	0
NEWBURY	5593	1	82	6	32	0	0	32	33	50
NEWBURYPORT	16726	889	216	314	191	3	3	168	164	25
NEWTON	81462	2959	887	667	665	5	1	703	685	222
NORFOLK	8318	2	117	136	36	1	1	68	57	81
NORTH ADAMS	16820	463	223	294	201	1	1	138	118	22
NORTH ANDOVER	23546	3	317	58	178	2	1	132	152	139
NORTH ATTLEBORO	25258	2	408	59	169	2	1	237	179	239
NORTH BROOKFIELD	4277	0	69	9	43	1	1	46	41	26
NORTH READING	11788	1	174	28	71	0	0	86	69	103
NORTHAMPTON	29085	1188	297	562	290	0	0	303	279	7
NORTHBOROUGH	11299	0	164	24	57	3	3	92	95	107
NORTHBRIDGE	12472	0	228	65	113	2	2	118	125	115
NORTHFIELD	2456	0	23	2	23	0	0	12	25	0
NORTON	14436	1	229	36	94	0	0	105	107	135
NORWELL	9634	0	106	36	61	0	0	59	73	45
NORWOOD	27571	1201	379	644	309	6	5	332	258	70
OAK BLUFFS	2507	167	54	81	55	0	0	47	52	-1
OAKHAM	1437	0	39	1	12	0	0	5	3	27
ORANGE	7581	0	130	3	58	0	0	64	60	72
ORLEANS	6477	0	52	50	88	0	0	79	94	-36

(1) POPULATION DATA PROVIDED BY THE MASSACHUSETTS INSTITUTE FOR SOCIAL AND ECONOMIC RESEARCH (MISER).

(2) INFANT AND NEONATAL DEATHS ARE INCLUDED IN TOTAL RESIDENT DEATHS.

(3) MARRIAGE INTENTIONS MAY BE FILED IN ANY MASSACHUSETTS COMMUNITY, REGARDLESS OF WHERE THE BRIDE AND GROOM RESIDE OR WHERE THE MARRIAGE CEREMONY OCCURS.

(4) MARRIAGE FIGURES REFLECT OCCURRENCE, NOT RESIDENCE.

TABLE A-4A  
VITAL EVENTS BY COMMUNITY  
1989

COMMUNITY	POPULATION (1)	LIVE BIRTHS		DEATHS		INFANT DEATHS		MARRIAGES		RESIDENT
		OCCURRENCE :	RESIDENT :	OCCURRENCE :	RESIDENT :	TOTAL :	NEONATAL (2)	LICENSES ISSUED :	OCCURRENCE (3) :	NATURAL INCREASE
									(4)	
STATE TOTAL	5875923	93361	91314	54520	53748	697	479	49174	49174	37566
OTIS	980	0	9	1	13	0	0	1	5	-4
OXFORD	12406	1	190	36	79	2	1	107	97	111
PALMER	11849	0	160	136	116	0	0	97	88	44
PAYTON	3828	0	45	3	19	0	0	16	30	26
PEABODY	46053	1	634	255	370	3	0	380	371	264
PELHAM	1407	0	12	1	9	0	0	3	8	3
PEMBROKE	15408	0	250	34	88	1	1	98	85	162
PEPPERELL	10357	0	200	13	56	0	0	68	60	144
PERU	806	0	14	1	4	0	0	3	2	10
PETERSHAM	957	0	7	4	12	0	0	4	17	-5
PHILLIPSTON	1083	1	28	1	12	0	0	4	11	16
PITTSFIELD	49062	1345	692	883	559	5	3	552	440	133
PLAINFIELD	479	0	8	2	1	0	0	5	7	7
PLAINVILLE	6160	1	103	13	39	1	1	76	77	64
PLYMOUTH	42665	838	688	463	337	5	3	328	357	351
PLYMPTON	2424	0	28	3	9	0	0	11	17	19
PRINCETON	2948	0	51	5	15	0	0	17	41	36
PROVINCETOWN	3491	0	29	34	45	0	0	51	53	-16
QUINCY	81640	963	1215	812	939	10	4	905	787	276
RANDOLPH	28533	0	456	89	274	4	3	237	233	182
RAYNHAM	9731	0	115	12	58	0	0	85	54	57
READING	22473	1	266	62	189	2	1	167	136	77
REHOBOTH	9014	0	99	7	43	0	0	42	77	56
REVERE	44123	1	706	106	439	8	7	338	269	267
RICHMOND	1623	0	20	2	13	0	0	11	10	7
ROCHESTER	4336	0	44	1	13	0	0	17	19	31
ROCKLAND	15506	0	272	69	130	2	2	131	99	142
ROCKPORT	6630	0	83	39	91	0	0	47	97	-8
ROWE	409	1	1	0	5	0	0	3	5	-4
ROWLEY	4275	1	87	13	27	0	0	26	31	60
ROYALSTON	1118	0	18	5	14	0	0	1	9	4
RUSSELL	1604	0	18	0	8	0	0	6	10	10

(1) POPULATION DATA PROVIDED BY THE MASSACHUSETTS INSTITUTE FOR SOCIAL AND ECONOMIC RESEARCH (MISER).

(2) INFANT AND NEONATAL DEATHS ARE INCLUDED IN TOTAL RESIDENT DEATHS.

(3) MARRIAGE INTENTIONS MAY BE FILED IN ANY MASSACHUSETTS COMMUNITY, REGARDLESS OF WHERE THE BRIDE AND GROOM RESIDE OR WHERE THE MARRIAGE CEREMONY OCCURS.

(4) MARRIAGE FIGURES REFLECT OCCURRENCE, NOT RESIDENCE.

TABLE A-4A  
VITAL EVENTS BY COMMUNITY  
1989

COMMUNITY	POPULATION (1)	LIVE BIRTHS		DEATHS		INFANT DEATHS		MARRIAGES		RESIDENT NATURAL INCREASE
		OCCURRENCE :	RESIDENT :	OCCURRENCE :	RESIDENT :	TOTAL (2)	NEONATAL (2)	LICENSES : OCCURRENCE ISSUED : (3) :	(4)	
STATE TOTAL	5875923	93361	91314	54520	53748	697	479	49174	49174	37566
RUTLAND	4709	0	80	7	27	0	0	22	25	53
SALEM	37618	2009	629	677	386	9	8	366	360	243
SALISBURY	7762	0	126	18	72	1	1	61	57	54
SANDISFIELD	822	0	4	6	7	0	0	3	4	-3
SANDWICH	14146	0	246	56	128	2	1	108	138	118
SAUGUS	25928	0	330	92	253	2	2	199	187	77
SAVOY	804	0	9	0	2	0	0	0	1	7
SCITUATE	17381	1	237	55	129	2	1	137	190	108
SEEKONK	13034	0	147	24	78	1	0	184	162	69
SHARON	14920	4	215	32	75	0	0	76	71	140
SHEFFIELD	2650	1	28	6	25	0	0	33	28	3
SHELBURNE	2061	0	31	20	34	1	0	15	29	-3
SHERBORN	4233	2	44	4	25	1	1	20	40	19
SHIRLEY	5867	0	77	7	31	1	0	33	39	46
SHREWSBURY	22681	0	342	53	190	2	2	198	132	152
SHUTESBURY	1304	2	26	4	6	0	0	2	5	20
SOMERSET	18039	0	130	36	176	0	0	127	125	-46
SOMERVILLE	71904	6	1022	332	668	11	9	518	375	354
SOUTH HADLEY	16713	0	172	59	155	0	0	129	164	17
SOUTHAMPTON	4644	0	64	7	29	0	0	30	17	35
SOUTHBOROUGH	6424	1	102	6	21	0	0	57	64	81
SOUTHBURIDGE	16426	627	316	280	190	5	3	176	155	126
SOUTHWICK	7941	1	101	10	40	0	0	54	39	61
SPENCER	11655	1	190	14	94	1	1	98	106	96
SPRINGFIELD	146076	6143	3009	2471	1622	43	37	1342	1259	1387
STERLING	7077	0	110	5	34	1	1	42	45	76
STOCKBRIDGE	2388	0	18	9	26	0	0	38	52	-8
STONEHAM	22768	1039	289	243	212	3	3	159	130	77
STOUGHTON	27300	2163	374	451	216	2	1	208	173	158
STOW	5447	1	76	2	22	0	0	39	41	54
STURBRIDGE	8024	1	120	12	37	0	0	96	106	83
SUDBURY	14075	1	172	56	76	0	0	105	514	96

(1) POPULATION DATA PROVIDED BY THE MASSACHUSETTS INSTITUTE FOR SOCIAL AND ECONOMIC RESEARCH (MISER).

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(3) MARRIAGE INTENTIONS MAY BE FILED IN ANY MASSACHUSETTS COMMUNITY, REGARDLESS OF WHERE THE BRIDE AND GROOM RESIDE OR WHERE THE MARRIAGE CEREMONY OCCURS.

(4) MARRIAGE FIGURES REFLECT OCCURRENCE, NOT RESIDENCE.

TABLE A-4A  
VITAL EVENTS BY COMMUNITY  
1989

COMMUNITY	POPULATION (1)	LIVE BIRTHS OCCURRENCE : RESIDENT :	DEATHS OCCURRENCE : RESIDENT :	INFANT DEATHS TOTAL : NEONATAL (2)	MARRIAGES LICENSES : OCCURRENCE ISSUED : (3) : (4)	RESIDENT NATURAL INCREASE
STATE TOTAL	5875923	93361 : 91314 :	54520 : 53748 :	697 : 479 :	49174 : 49174 :	37566
SUNDERLAND	2984	0	16	0	17	43
SUTTON	6837	0	7	0	41	45
SWAMPSCOTT	12673	0	54	1	125	13
SWANSEA	15994	0	34	0	112	22
TAUNTON	46908	724	405	8	454	439
TEMPLETON	6074	0	30	0	35	29
TEWKSBURY	25770	1	117	5	226	324
TISBURY	3705	2	9	0	46	23
TOLLAND	264	0	2	0	1	-2
TOPSFIELD	5540	0	4	0	26	36
TOWNSEND	9197	2	9	1	58	123
TRURO	1505	0	11	0	12	-6
TYNGSBOROUGH	8481	2	8	0	55	126
TYRINGHAM	382	0	1	0	2	0
UPTON	4330	0	7	0	36	33
UXBRIDGE	9106	1	21	0	71	66
WAKEFIELD	25041	0	92	3	209	84
WALES	1605	0	1	0	4	18
WALPOLE	20358	1	26	1	164	144
WALTHAM	56963	685	588	4	575	170
WARE	10011	200	113	0	78	46
WAREHAM	21561	488	222	5	169	156
WARREN	4000	1	7	0	24	37
WARMICK	611	0	3	0	6	1
WASHINGTON	611	0	7	0	3	6
WATERTOWN	32791	3	97	4	352	31
WAYLAND	12066	2	44	1	87	62
WEBSTER	15086	0	196	2	127	49
WELLESLEY	26606	1	112	0	168	62
WELLFLEET	2543	0	14	0	27	-2
WENDELL	814	0	1	0	0	8
WENHAM	3799	0	3	0	18	13

(1) POPULATION DATA PROVIDED BY THE MASSACHUSETTS INSTITUTE FOR SOCIAL AND ECONOMIC RESEARCH (MISER).

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(3) MARRIAGE INTENTIONS MAY BE FILED IN ANY MASSACHUSETTS COMMUNITY, REGARDLESS OF WHERE THE BRIDE AND GROOM RESIDE OR WHERE THE MARRIAGE CEREMONY OCCURS.

(4) MARRIAGE FIGURES REFLECT OCCURRENCE, NOT RESIDENCE.

TABLE A-4A  
VITAL EVENTS BY COMMUNITY  
1989

COMMUNITY	POPULATION (1)	LIVE BIRTHS : OCCURRENCE : RESIDENT :	DEATHS : OCCURRENCE : RESIDENT :	INFANT DEATHS : TOTAL : NEONATAL (2)	MARRIAGES : LICENSES : OCCURRENCE ISSUED : (3) : (4)	RESIDENT : NATURAL INCREASE
STATE TOTAL	5875923	93361 : 91314 :	54520 : 53748 :	697 : 479 :	49174 : 49174 :	37566
WEST BOYLSTON	6001	0	33	0	62	-9
WEST BRIDGEWATER	6783	0	15	1	59	5
WEST BROOKFIELD	3451	0	25	0	23	26
WEST NEWBURY	3360	0	3	0	15	27
WEST SPRINGFIELD	26679	1	109	2	220	97
WEST STOCKBRIDGE	1293	0	2	0	5	4
WEST TISBURY	1354	1	8	0	17	17
WESTBOROUGH	13018	2	62	1	146	50
WESTFIELD	37828	0	415	1	329	237
WESTFORD	15164	2	19	1	106	163
WESTHAMPTON	1467	0	4	0	3	9
WESTMINSTER	5537	0	7	0	51	25
WESTON	10696	1	56	0	76	-7
WESTPORT	14202	1	82	0	120	35
WESTWOOD	12210	1	14	1	87	38
WEYMOUTH	54448	2175	793	7	444	308
WHATELY	1384	1	5	0	7	2
WHITMAN	13921	0	17	0	102	119
WILBRAHAM	12313	0	35	2	70	36
WILLIAMSBURG	2566	0	4	0	11	10
WILLIAMSTOWN	8080	0	72	0	61	-23
WILMINGTON	17462	0	33	1	130	156
WINCHENDON	8052	0	20	0	62	102
WINCHESTER	19719	1910	357	0	148	58
WINDSOR	619	0	4	0	6	6
WINTHROP	18769	1	224	0	181	23
WOBURN	38105	1	250	3	342	236
WORCESTER	155415	7183	3338	26	1547	1173
WORTHINGTON	1297	0	1	0	5	5
WRENTHAM	9318	1	38	1	34	65
YARMOUTH	20554	2	134	3	147	-72

(1) POPULATION DATA PROVIDED BY THE MASSACHUSETTS INSTITUTE FOR SOCIAL AND ECONOMIC RESEARCH (MISER).

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(3) MARRIAGE INTENTIONS MAY BE FILED IN ANY MASSACHUSETTS COMMUNITY, REGARDLESS OF WHERE THE BRIDE AND GROOM RESIDE OR WHERE THE MARRIAGE CEREMONY OCCURS.

(4) MARRIAGE FIGURES REFLECT OCCURRENCE, NOT RESIDENCE.

TABLE A-4B  
VITAL EVENTS BY COUNTY  
1989

COUNTY	POPULATION (1)	LIVE BIRTHS : OCCURRENCE : : RESIDENT :	DEATHS : OCCURRENCE : : RESIDENT :	INFANT DEATHS : TOTAL : : NEONATAL (2) :	MARRIAGES (3)	DIVORCES (3)	RESIDENT NATURAL INCREASE
STATE TOTAL	5875923	93361 : 91314	54520 : 53748	697 : 479	49174	16819	37566
BARNSTABLE	181117	1915	2034	15	2053	601	234
BERKSHIRE	140706	1972	1680	9	1328	458	163
BRISTOL	492530	6014	4136	48	4148	1587	3000
DUKES	11690	170	110	1	353	33	65
ESSEX	647228	10205	5858	87	5733	2041	4800
FRANKLIN	66913	950	646	4	557	237	303
HAMPDEN	440955	7817	4772	72	3565	1481	2691
HAMPSHIRE	147475	1398	869	10	1093	327	534
MIDDLESEX	1366294	19925	10611	139	11233	3682	8626
NANTUCKET	6248	82	71	2	235	15	12
NORFOLK	603637	6524	4487	58	4915	1390	2932
PLYMOUTH	445004	2558	3003	40	3552	1428	3452
SUFFOLK	661684	22474	9763	124	4750	996	5625
WORCESTER	664442	11357	6480	88	5659	2543	5129

(1) POPULATION DATA PROVIDED BY THE MASSACHUSETTS INSTITUTE FOR SOCIAL AND ECONOMIC RESEARCH (MISER).

(2) INFANT AND NEONATAL DEATHS ARE INCLUDED IN TOTAL RESIDENT DEATHS.

(3) MARRIAGE AND DIVORCE FIGURES REFLECT OCCURRENCE, NOT RESIDENCE.



# NATALITY



## SECTION B

### NATALITY

A trend of increased births to Massachusetts residents continued for the 13th year in 1989. There were 91,314 live births to Massachusetts residents in 1989, a 3.7% increase over the 88,047 resident live births in 1988. Live births to Massachusetts residents include all births to Massachusetts residents, regardless of the state in which they occurred. Most data presented in this section are resident data. Table B-10 presents births by hospital of occurrence.

#### OCCURRENCE BIRTHS

In 1989, 93,362 births occurred in Massachusetts. All but 526 births occurred at the 58 hospitals with maternity units. The number of babies delivered at these hospitals ranged from 82 at Nantucket Cottage Hospital in Nantucket to 10,277 at Brigham and Women's Hospital in Boston. The median number of births per hospital was 1,192, an increase from the median number of 1,182 in 1988. The four hospitals with the greatest number of births -- Brigham and Women's (10,277), Bay State Medical Center (6,120), Beth Israel (5,800) and Worcester Memorial (3,751) -- represent almost 28% of all births occurring in Massachusetts. The distribution of Massachusetts births by hospital size is presented below. These data have shown little change in the past several years.

**1989 DISTRIBUTION OF MASSACHUSETTS  
OCCURRENCE BIRTHS BY HOSPITAL**

NUMBER OF BIRTHS AT HOSPITAL	NO. OF HOSPITALS IN CATEGORY	TOTAL NO. OF BIRTHS IN CATEGORY	% OF TOTAL BIRTHS
< 500	9	2,704	2.9
500-999	15	11,486	12.3
1000-1499	13	16,032	17.2
1500-1999	7	12,730	13.6
≥ 2000	14	49,884	53.4
ALL OTHER <sup>1</sup>		526	0.6
TOTAL	58	93,362	100.0

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<sup>1</sup> Includes hospitals without maternity units, birthing centers, home births and births en route to hospital.

## HOME BIRTHS

The apparent public interest in home births is not reflected in the reported numbers: only 330 births, or 0.35% of all Massachusetts resident births, occurred at home. However, home births are undercounted in the data presented. Home births, much more than hospital births, tend to be recorded as delayed records (more than one year after the event) rather than reported at the time of birth. Delayed record statistics are not included in this report.

## BIRTHS BY RACE/ETHNICITY

The number of Massachusetts resident births occurring to white women declined to 79.4% in 1989. There are a number of points to keep in mind when analyzing 1989 data by race/ethnicity. Since June 1986, information on both race and ethnicity rather than a single race question has been collected. This provides improved data, particularly for Hispanic births. Presented below are resident birth data for calendar year 1989 utilizing maternal race and ethnicity information:

### RACE AND ETHNICITY OF MOTHER JANUARY - DECEMBER, 1989

MATERNAL RACE/ETHNICITY	TOTAL BIRTHS	% OF TOTAL
White non-Hispanic	72,515	79.4
Hispanic	7,750	8.5
Black non-Hispanic	6,689	7.3
Asian	3,247	3.6
Other	866	0.9
Unknown	247	0.3
TOTAL	91,314	100.0

The final point which must be considered is the method used to present data by race. On the birth certificate, information is collected on mother's and father's race and ethnicity. However, 1989 race/ethnicity birth data are presented by race/ethnicity of the mother only. If, for example, access to prenatal care is being analyzed, the information is better presented by race of mother rather than race of infant.

## TEEN BIRTHS

For the third consecutive year, the number of births to mothers between the ages of 15 and 19 increased -- from 7,113 in 1988 to 7,607 in 1989. Also, the percentage of all Massachusetts resident births for mothers in this age group increased from 8.1% in 1988 to 8.3% in 1989. The age-specific birth rate increased from 34.2 to 38.0.

## BIRTHS BY MARITAL STATUS

The proportion of unmarried mothers continued to increase -- to 23.8% of all resident births in 1989 from 22.2% in 1988. More than 80% of the mothers under the age of 20 were unmarried, while 18.6% of the mothers aged 20 or older were unmarried.

## BIRTHS BY AGE OF MOTHER

The largest percentage increase in births between the years 1988 and 1989 (17.5%) were to mothers between the ages of 40 and 44, as demonstrated below:

AGE OF MOTHER	DIFFERENCE IN THE NUMBER OF BIRTHS 1988-1989	PERCENTAGE CHANGE
< 20	+ 473	+ 6.5
20-24	+ 202	+ 1.1
25-29	+ 676	+ 2.3
30-34	+ 1,084	+ 4.6
35-39	+ 679	+ 8.2
40-44	+ 203	+ 17.5
≥ 45	-8	-17.4

## BIRTHS BY CAESAREAN SECTION

The number of Caesarean section deliveries to Massachusetts residents decreased from 21,060 in 1988 to 20,777 in 1989. The rate per 1,000 live births also decreased from 239.2 to 227.5. The lowest rate of C-sections (when the mother's age is known) was for mothers between the ages of 15 and 19 (161.0 per 1,000 live births), and the highest was for women aged 40-44 (315.0).

## HOSPITAL PROFILES

The following is a synopsis of the data presented in Table B-10, Hospital Profiles, Massachusetts Occurrence Births:

- The rate of Caesarean sections per hospital ranged from 99.0 to 349.0 per 1,000 births.
- The highest percentage of low birthweight babies was at St. Margaret's Hospital in Boston (15.8%), the lowest percentage at Hunt Memorial Hospital in Danvers (1.4%). By race/ethnicity, the proportion of low birthweight infants by hospital had major variations. In most cases, the variations resulted from very small numbers of births occurring in a race/ethnicity category at a hospital.

- Based on total occurrence births, adequacy of prenatal care by hospital of delivery ranged from a low of 26.8% to a high of 95.9%. When comparing prenatal care by race per hospital, white non-Hispanic mothers received 31.2% to 96.2% adequate care; black non-Hispanic mothers received 21.4% to 89.8% adequate care; Hispanic mothers received 25.0% to 100.0% adequate care; and Asian mothers received 25.5% to 100.0% adequate care.
- Statewide, 52.2% of all new mothers breast fed their babies. By known race/ethnicity, 53.5% of white, non-Hispanic mothers nursed their babies, followed by Hispanic mothers (30.1%), Asian mothers (43.5%), and black, non-Hispanic mothers (42.4%). The highest percent of mothers who breast fed their babies occurred at Emerson Hospital in Concord (75.7%), and the lowest percent occurred at St. Elizabeth's Hospital in Boston (30.1%).
- Statewide, 73.2% of all deliveries were paid by private insurers. Private insurers paid for delivery for 81.5% of white, non-Hispanic mothers, 60.3% of Asian mothers, 41.4% of black, non-Hispanic mothers, and 29.5% of Hispanic mothers. The source of payment for delivery by private insurers (Blue Cross/Blue Shield, Health Maintenance Organizations and commercial insurers) showed the highest percentage at South Shore Hospital in Weymouth (93.0%) and the lowest percentage at Boston City Hospital in Boston (12.1%).

## **LOW BIRTHWEIGHT BABIES**

The percentage of low birthweight babies (less than 2,500 grams or five pounds eight ounces) decreased slightly from 6.0% of total births in 1988 to 5.9% in 1989 (5,372 births). The percent of low birthweight babies born to mothers under the age of 20 increased from 8.3% in 1988 to 8.4% in 1989.

## **DEFINITIONS IMPORTANT FOR THIS SECTION INCLUDE:**

### **ADEQUACY OF PRENATAL CARE**

The Index of Adequacy of Prenatal Care (using the Kessner Index) has five categories (adequate, intermediate, inadequate, no prenatal care, and unknown), based on the trimester in which prenatal care began and the number of prenatal visits. The general classification scheme is as follows:

CATEGORY	TRIMESTER CARE BEGAN	# OF VISITS
Adequate	1	9 or more
Intermediate	1	5-8
	2	5 or more
Inadequate	1	1-4
	2	1-4
	3	1 or more
No prenatal care	--	0
Unknown	Unknown	Unknown

This classification is adjusted for gestational age to allow for proper classification of premature births.

## **BIRTHWEIGHT**

The weight of an infant recorded at the time of delivery. It may be recorded in either pounds/ounces or grams. If it is pounds/ounces, it is converted to grams for use in this report.

1 pound = 453.6 grams; 1,000 grams = 2 pounds, 3 ounces

## **BIRTHWEIGHT CATEGORIES**

Normal birthweight (NBW): An infant's weight of 2,500 grams (5.5 pounds) or more recorded at birth.

Low birthweight (LBW): An infant's weight of less than 2,500 grams (5.5 pounds) recorded at birth.

Very low birthweight (VLBW): An infant's weight of less than 1,500 grams (3.3 pounds) recorded at birth.

## **CAESAREAN SECTION or C-SECTION**

Primary: A mother's first Caesarean section delivery.

Repeat: A Caesarean delivery that has been preceded by at least one Caesarean delivery.

## **ETHNICITY**

See Race.

## **INFANT**

A child whose age is less than one year (365 days).

## **LIVE BIRTH**

A live birth is any infant who breathes or shows any other evidence of life (such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles) after separation from the mother's uterus, regardless of the duration of gestation.

## **LOW BIRTHWEIGHT**

See Birthweight Categories.

## **NEONATE**

A child under 28 days of age.

## **NORMAL BIRTHWEIGHT**

See Birthweight Categories.

## **OCCURRENCE BIRTH**

A birth occurring in the Commonwealth of Massachusetts, regardless of the residency of the mother. In Massachusetts, the place will be one of the 351 cities or towns. See Resident Birth.

## **PARITY**

The number of live births, including the present birth.

## **PRIMARY**

See Caesarean Section.

## **RACE**

**Race of Infant:** For birth data presented in this publication labeled "old", infant's race is derived from parent's race. For birth data labeled "new", infant's race is the mother's self-reported race, according to written recommendations by the National Center for Health Statistics. (Race on a death certificate is determined by the certifier of the death.)

**Race of mother:** For data presented in this publication, mother's race is as reported by the infant's mother.

**Race/ethnicity:** Data on race/ethnicity are available starting in June 1986 by using the new birth certificate implemented on June 1, 1986. This birth certificate includes separate questions on race and ethnicity of each parent. The major effect of this modification is the more precise specification of Hispanic ethnicity.

## **REPEAT**

See Caesarean Section.

## **RESIDENT BIRTH**

The usual place of residence as reported by the mother. An infant's residence is considered to be that of the mother. In Massachusetts, a resident is a person with a permanent address in one of the 351 cities or towns. Vital statistics data may be presented either in terms of residence or occurrence. Unless otherwise noted, all data in this publication are resident data. Resident data include all events that occur to residents of the Commonwealth, wherever they occur. Occurrence data include all events that occur within the state, whether to residents or nonresidents. There is an interstate exchange agreement among the 50 states, Canada, Puerto Rico, Guam, the Virgin Islands, and the District of Columbia that provides for exchange of copies of birth and death records. These records are used for statistical purposes only, and allow each state or province to track the births and deaths of its residents.

## **VERY LOW BIRTHWEIGHT**

See Birthweight Categories.



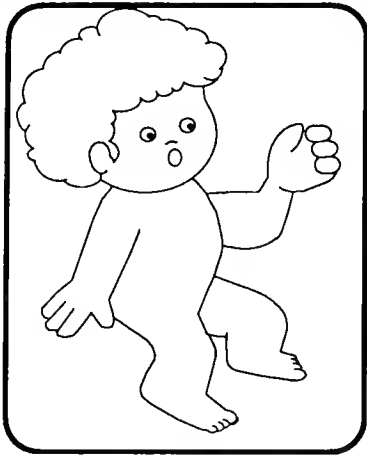
**RATES IMPORTANT FOR THIS SECTION INCLUDE:**

<b><u>AGE-SPECIFIC BIRTH RATE</u></b>	<b>No. of Resident Live Births for a Specific Age of Mother _____ x 1,000 Total Female Population of That Specific Age</b>
<b><u>CRUDE BIRTH RATE</u></b>	<b><u>No. of Resident Live Births</u> x 1,000 Total Resident Population</b>
<b><u>GENERAL BIRTH RATE</u></b>	<b><u>No. of Resident Live Births</u> x 1,000 Total Female Population of Childbearing Age (15-44)</b>



FIGURE B-1

Every day in 1989, residents of Massachusetts experienced an average of:



**250**  
Births



**15** Births Weighing  
<2500 Grams  
(Low Birthweight)



**21** Births to Women  
Aged 15 through 19



**28** Births to Women  
Aged 35 or Older



**52** Births with less  
than Adequate  
Prenatal Care



**57** Births by  
Caesarean Section

**TABLE B-1**  
**TRENDS IN NATALITY CHARACTERISTICS**  
**MASSACHUSETTS RESIDENTS**  
**1980-1989**

YEAR		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
BIRTHS	# <sup>1</sup> Rate <sup>2</sup>	72,591 53.4	73,930 54.1	75,749 55.1	76,031 55.0	78,197 56.2	81,781 58.5	82,168 58.4	84,345 59.6	88,047 61.8	91,314 64.0
RACE OF MOTHER <sup>3</sup>											
White <sup>4</sup>	# %	66,220 91.2	66,802 90.4	67,838 89.6	68,038 89.5	69,137 88.4	71,854 87.9	71,855 87.4	74,444 88.3	76,746 87.2	80,027 87.6
Black	# %	4,626 6.4	4,687 6.3	4,673 6.2	4,570 6.0	4,829 6.2	5,099 6.2	5,407 6.6	6,198 7.4	6,725 7.6	7,374 8.1
Other <sup>5</sup>	# %	1,069 1.5	1,292 1.7	1,460 1.9	1,576 2.1	1,683 2.1	1,741 2.1	2,299 2.8	2,651 3.1	3,343 3.8	3,526 3.9
Unknown	# %	676 0.9	1,149 1.6	1,778 2.3	1,847 2.4	2,548 3.3	3,087 3.8	2,607 3.2	1,052 1.2	1,233 1.4	387 0.4
TEENAGE BIRTHS	# Rate <sup>6</sup>	7,694 28.1	7,334 27.7	7,263 28.3	6,833 27.5	6,932 28.8	6,859 29.5	6,754 30.1	6,923 32.0	7,113 34.2	7,606 38.0
LOW BIRTHWEIGHT	# %	4,413 6.1	4,428 6.0	4,447 5.9	4,461 5.9	4,597 5.9	4,751 5.8	4,642 5.6	4,846 5.7	5,266 6.0	5,372 5.9
ADEQUATE PRENATAL CARE	% <sup>7</sup> %	82.0 79.6	82.9 80.4	81.8 79.9	79.8 78.4	79.7 79.2	79.4 78.6	79.1 76.2	78.2 75.4	78.8 75.4	78.8 77.6

<sup>1</sup> Differences in numbers of births from previous publications are the result of updated files.

<sup>2</sup> Rate per 1,000 women aged 15-44. Differences in rates from previous publications are the results of modifications of population estimates.

<sup>3</sup> Past editions of the Annual Report of Vital Statistics used race of infant. See Changes in the Calculation of Infant Mortality Rate in Section D.

<sup>4</sup> On tables which include data prior to June 1986, the race classifications do not include an ethnicity component; most Hispanics are included in the race category of white.

<sup>5</sup> Other races include Asian, American Indian, Hawaiian, and other.

<sup>6</sup> Rate per 1,000 females aged 15-19.

<sup>7</sup> Percentages in upper row are based on birth with known scores of adequacy of prenatal care; bottom row percentages are based on total numbers of births.

**TABLE B-2**  
**AGE-SPECIFIC AND CRUDE BIRTH RATES**  
**MASSACHUSETTS RESIDENT BIRTHS**  
**1988-1989**

Maternal Age	1988		1989		Percent Change
	<u>Births</u> <sup>1</sup> Population	Rate	<u>Births</u> Population	Rate	
<b>13-14</b>	<u>147</u> 70,787	2.1	<u>127</u> 68,351	1.8	- 14.3
<b>15-19</b>	<u>7,113</u> 208,068	34.2	<u>7,607</u> 199,901	38.0	+ 11.1
<b>20-24</b>	<u>18,526</u> 244,937	75.6	<u>18,728</u> 240,270	77.9	+ 3.0
<b>25-29</b>	<u>29,346</u> 268,780	109.2	<u>30,022</u> 271,157	110.7	+ 1.4
<b>30-34</b>	<u>23,346</u> 266,689	87.5	<u>24,429</u> 271,435	90.0	+ 2.8
<b>35-39</b>	<u>8,317</u> 226,754	36.7	<u>8,996</u> 232,747	38.6	+ 5.2
<b>40-44</b>	<u>1,159</u> 204,647	5.7	<u>1,362</u> 212,251	6.4	+ 12.3
<b>Birth Rate, ages 15-44</b> <sup>2</sup>	<u>87,807</u> 1,419,875	61.8	<u>91,144</u> 1,427,761	63.8	+ 3.2
<b>Crude Birth Rate</b> <sup>3</sup>	<u>88,047</u> 5,860,283	15.0	<u>91,314</u> 5,875,923	15.5	+ 3.3

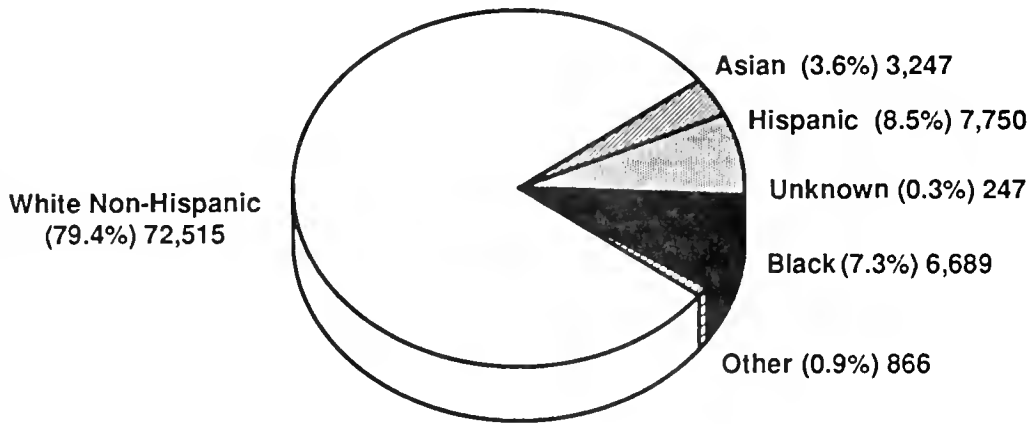
<sup>1</sup> Differences in the number of births from previous publications are the result of updating the files.

Population data are interpolations between the 1980 U.S. Bureau of the Census counts and the 1990 MISER projections.

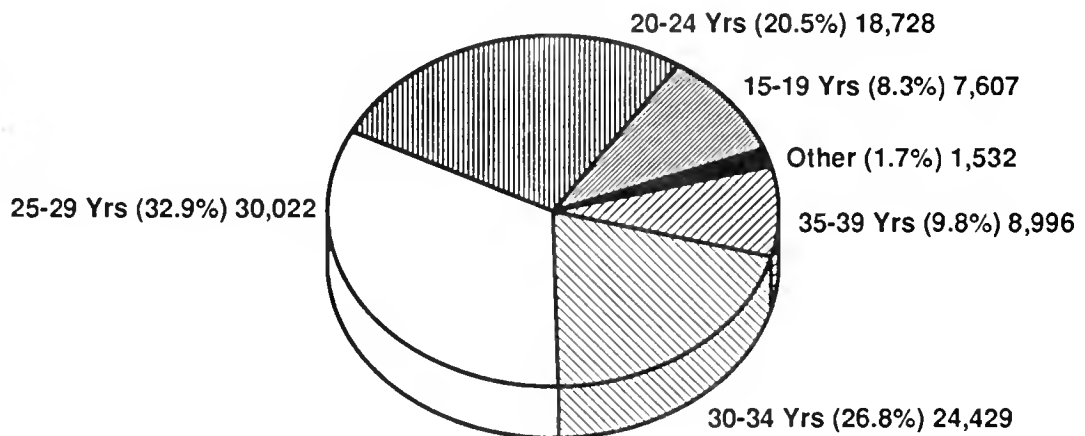
<sup>2</sup> Births per 1,000 females aged 15-44.

<sup>3</sup> Births per 1,000 residents.

**Figure B-2**  
**Resident Live Births by Mother's Race**  
**1989**



**Figure B-3**  
**Resident Live Births by Mother's Age**  
**1989**



**TABLE B-3**  
**BIRTHS BY MOTHER'S AGE, RACE AND MARITAL STATUS**  
**MASSACHUSETTS RESIDENT BIRTHS**  
**1989**

AGE OF MOTHER	MARITAL STATUS	TOTAL	WHITE, NON-HISPANIC	BLACK, NON-HISPANIC	HISPANIC	ASIAN	OTHER	UNKNOWN
<b>GRAND TOTAL</b>		81,314	72,520	8,701	7,758	3,240	852	242
< 15	TOTAL	127	47	34	41	1	4	0
	MARRIED	3	1	1	1	0	0	0
	UNMARRIED	124	46	33	40	1	4	0
15	TOTAL	345	135	80	113	13	3	1
	MARRIED	20	8	1	10	0	0	0
	UNMARRIED	325	126	79	103	13	3	1
16	TOTAL	853	411	178	221	27	16	0
	MARRIED	58	28	2	22	4	2	0
	UNMARRIED	795	383	176	199	23	14	0
17	TOTAL	1,428	930	231	301	41	18	5
	MARRIED	164	105	8	43	7	1	0
	UNMARRIED	1,262	725	223	258	34	17	5
18	TOTAL	2,207	1,388	285	427	80	38	3
	MARRIED	424	314	12	78	15	5	0
	UNMARRIED	1,783	1,072	283	349	45	31	3
19	TOTAL	2,776	1,805	323	488	98	55	5
	MARRIED	852	637	34	139	27	15	0
	UNMARRIED	1,924	1,168	289	350	72	40	5
20-24	TOTAL	18,728	13,138	1,802	2,805	617	224	41
	MARRIED	10,910	8,835	478	1,108	354	107	27
	UNMARRIED	7,818	4,304	1,423	1,697	283	117	14
25-29	TOTAL	30,022	24,826	1,868	1,858	1,047	261	84
	MARRIED	25,465	22,381	883	1,089	802	165	55
	UNMARRIED	4,557	2,465	983	859	145	96	9
30-34	TOTAL	24,428	21,033	1,243	981	827	170	75
	MARRIED	22,236	19,852	728	622	852	118	84
	UNMARRIED	2,193	1,181	515	359	75	52	11
35-39	TOTAL	8,896	7,743	485	357	343	51	37
	MARRIED	8,189	7,308	278	228	303	38	32
	UNMARRIED	807	435	187	128	40	12	5
40-44	TOTAL	1,362	1,133	81	82	84	13	9
	MARRIED	1,188	1,050	46	36	50	8	7
	UNMARRIED	164	83	35	26	14	4	2
≥45	TOTAL	38	27	3	4	1	1	2
	MARRIED	34	26	2	2	1	1	2
	UNMARRIED	4	1	1	2	0	0	0
UNKNOWN	TOTAL	5	5	0	0	0	0	0
	MARRIED	5	5	0	0	0	0	0
	UNMARRIED	0	0	0	0	0	0	0

**TABLE B-4**  
**RESIDENT BIRTHS TO TEENAGE MOTHERS**  
**1970-1989**

YEAR	TOTAL BIRTHS	AGE OF MOTHER									% OF TOTAL BIRTHS
		12	13	14	15	16	17	18	19	TOTAL 12-19	
1970	93,582	3	8	70	320	802	1,726	3,043	4,285	10,257	11.0
1971	86,755	3	23	84	313	875	1,738	2,981	4,000	10,017	11.5
1972	76,835	1	20	103	348	955	1,841	2,834	3,690	9,792	12.7
1973	72,237	0	12	93	393	959	1,759	2,584	3,282	9,082	12.6
1974	70,071	2	16	79	333	895	1,762	2,524	3,181	8,792	12.5
1975	68,070	2	18	84	325	915	1,678	2,560	3,085	8,667	12.7
1976	65,947	7	12	96	336	807	1,478	2,332	2,923	7,991	12.1
1977	67,838	1	18	68	270	792	1,477	2,293	2,913	7,832	11.5
1978	68,526	3	15	67	303	737	1,445	2,252	2,979	7,801	11.4
1979	70,568	2	9	70	283	773	1,413	2,306	2,916	7,772	11.0
1980	72,591	1	14	56	300	740	1,360	2,202	3,092	7,765	10.7
1981	73,931	1	12	82	275	722	1,357	2,164	2,816	7,429	10.0
1982	75,749	1	14	83	299	753	1,328	2,161	2,722	7,361	9.7
1983	76,031	0	8	78	255	726	1,278	2,053	2,521	6,919	9.1
1984	78,198	1	8	75	265	714	1,307	2,061	2,585	7,016	9.0
1985	81,776	4	12	97	295	698	1,283	1,986	2,595	6,970	8.5
1986	82,163	0	15	82	334	712	1,233	1,954	2,521	6,851	8.3
1987	84,343	2	15	79	327	796	1,337	1,965	2,498	7,019	8.3
1988	88,047	0	27	120	352	732	1,450	2,068	2,511	7,260	8.2
1989	91,314	0	19	108	345	853	1,426	2,207	2,776	7,734	8.5



**TABLE B-5**  
**BIRTHS BY BIRTHWEIGHT, MATERNAL RACE AND ETHNICITY**  
**MASSACHUSETTS RESIDENT BIRTHS**  
**1989**

Birthweight (in grams)	Total		White Non- Hispanic		Black Non- Hispanic		Hispanic		Asian		Other		Unknown	
	#	% <sup>1</sup>	#	%	#	%	#	%	#	%	#	%	#	%
State Total	91,314	100.0	72,520	100.0	6,701	100.0	7,759	100.0	3,240	100.0	852	100.0	242	100.0
<500	129	0.1	68	0.1	40	0.6	15	0.2	1	— <sup>4</sup>	3	—	2	—
500-999	372	0.4	233	0.3	78	1.2	50	0.6	5	0.2	4	—	2	—
1,000-1,499	528	0.6	363	0.5	81	1.2	63	0.8	11	0.3	8	0.9	2	—
VLBW (0-1,499) <sup>2</sup>	1,029	1.1	664	0.9	199	3.0	128	1.6	17	0.5	15	1.8	6	2.5
1,500-1,999	969	1.1	693	1.0	130	1.9	102	1.3	29	0.9	14	1.6	1	—
2,000-2,499	3,375	3.7	2,357	3.2	462	6.9	346	4.5	150	4.6	50	5.9	10	4.1
LBW (0-2,499) <sup>3</sup>	5,373	5.9	3,714	5.1	791	11.8	576	7.4	196	6.0	79	9.3	17	7.0
2,500-2,999	13,471	14.8	9,589	13.2	1,479	22.1	1,469	18.9	763	23.5	144	16.9	27	11.2
3,000-3,499	32,338	35.4	25,123	34.6	2,480	37.0	2,988	38.5	1,373	42.4	314	36.9	60	24.8
3,500-3,999	28,504	31.2	23,883	32.9	1,492	22.3	2,082	26.8	744	23.0	244	28.6	59	24.4
4,000-4,499	9,542	10.4	8,392	11.6	385	5.7	541	7.0	142	4.4	57	6.7	25	10.3
4,500-4,999	1,766	1.9	1,594	2.2	55	0.8	83	1.1	18	0.6	11	1.3	5	2.1
≥5,000	202	0.2	175	0.2	9	0.1	13	0.2	2	—	2	—	1	—
Unknown	118	0.1	50	0.1	10	0.1	7	0.1	2	—	1	—	48	19.8

<sup>1</sup> Percentages are based on column totals.

<sup>2</sup> VLBW: very low birth weight.

<sup>3</sup> LBW: low birthweight.

<sup>4</sup> Calculations based on fewer than five events are excluded.

**TABLE B-6**  
**NATALITY CHARACTERISTICS BY MATERNAL RACE AND ETHNICITY**  
**MASSACHUSETTS RESIDENT BIRTHS**  
**1989**

MATERNAL RACE AND ETHNICITY	TOTAL BIRTHS	TEENAGE BIRTHS		BIRTHWEIGHT		PRENATAL CARE		CAESAREAN SECTIONS	BREAST-FEEDING
		<18 yrs	<20 yrs	Very Low <sup>1</sup>	Low <sup>2</sup>	Adequate <sup>3</sup>	First Trimester		
	Number	%	%	%	%	%	%	%	%
STATE TOTAL	91,314	3.0	8.5	1.1	5.9	78.8	82.8	22.9	52.2
WHITE NON-HISPANIC	72,520	2.0	6.4	0.9	5.1	83.6	87.4	23.6	53.4
BLACK NON-HISPANIC	6,701	7.8	17.0	3.0	11.8	53.3	59.8	20.4	42.6
Haitian	1,038	1.2	4.3	1.4	6.1	54.1	59.0	25.1	64.7
Other Black Non-Hispanic	5,663	9.0	19.4	3.3	12.9	53.2	60.0	19.5	38.5
HISPANIC	7,759	8.7	20.5	1.6	7.4	61.9	66.9	20.9	52.6
Puerto Rican	4,683	12.2	27.6	1.9	8.4	59.1	64.7	19.7	41.9
Dominican	1,163	3.3	11.1	1.1	7.1	67.3	70.8	26.1	69.6
Central American	708	3.8	9.9	1.3	5.5	56.9	61.8	17.0	67.3
Other Hispanic	1,205	3.3	8.3	1.3	5.1	70.2	74.4	22.9	69.4
ASIAN	3,240	2.5	7.4	0.5	6.1	65.5	69.2	15.5	43.2
Cambodian	651	5.1	17.5	0.8	5.5	39.3	43.2	7.1	10.8
Other Southeast Asian	648	5.1	13.1	-- <sup>6</sup>	8.2	53.9	59.5	12.2	24.0
Chinese	957	--	1.2	--	3.7	79.6	82.6	18.5	47.5
Other Asian	984	1.3	3.2	0.5	7.3	77.0	79.8	20.4	73.2
OTHER <sup>4</sup>	852	4.8	15.5	1.6	9.2	60.2	66.1	24.1	50.7
UNKNOWN <sup>5</sup>	242	2.5	5.8	3.1	8.8	79.7	81.9	23.3	53.5

<sup>1</sup> Very Low Birthweight: <1,500 grams or 3.3 pounds.

<sup>2</sup> Low Birthweight: <2,500 grams or 5.5 pounds.

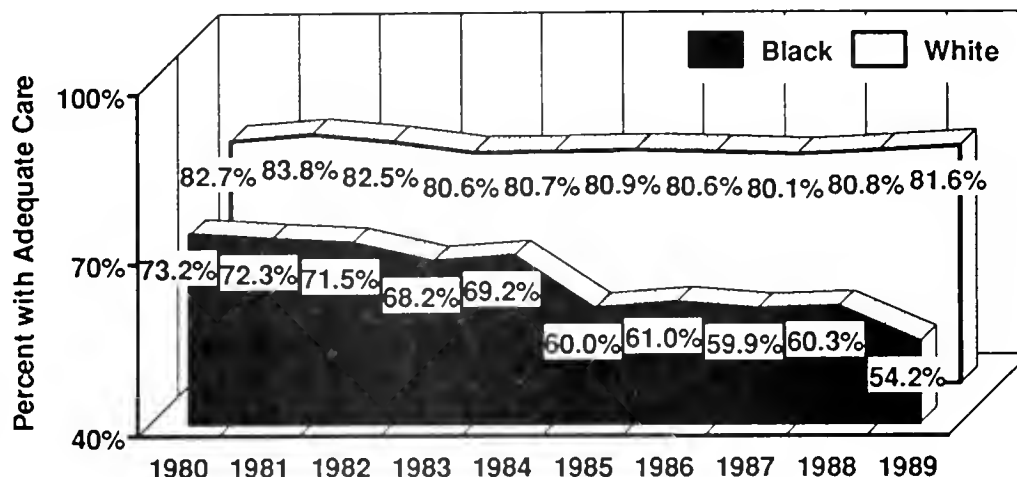
<sup>3</sup> Calculations are based on births with known adequacy of prenatal care scores.

<sup>4</sup> Other: Mothers who self-designated themselves as Other race.

<sup>5</sup> Unknown: Mothers who did not indicate a race/ethnicity.

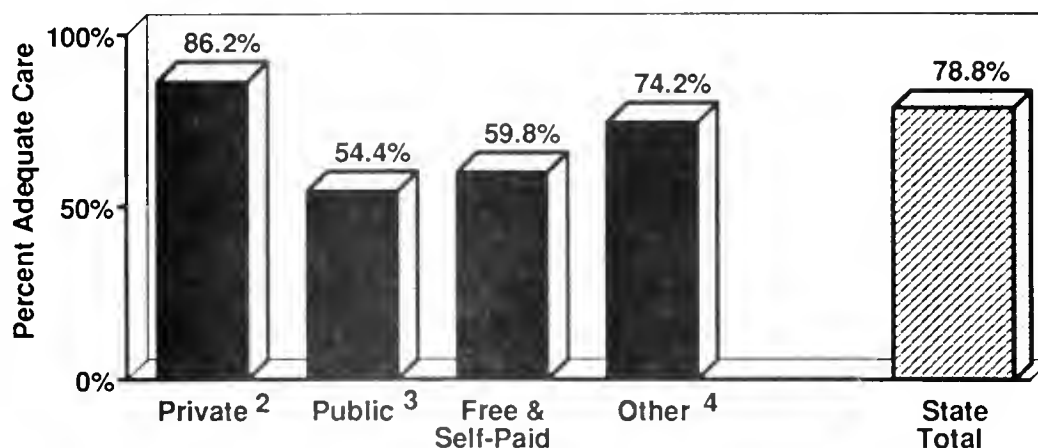
<sup>6</sup> Calculations based on fewer than five events are excluded.

**FIGURE B-4**  
**TRENDS IN ADEQUACY OF PRENATAL CARE<sup>1</sup>**  
**by Maternal Race<sup>2</sup>**



1. Calculations are based on births with known adequacy of prenatal care scores, using the Kessner adequacy index.
2. When calculating statistics which include data before June 1986, the race classifications do not include an ethnicity component; most Hispanics are included in the race category of white.

**FIGURE B-5**  
**ADEQUACY OF PRENATAL CARE**  
**by Prenatal Care Source of Payment<sup>1</sup>**  
**Massachusetts: 1989**



1. The source of payment for prenatal care is a self-reported item on the birth certificate. As with all such data, they are subject to the limitations of self-reported information and should be interpreted with the usual caution.
2. Private: Blue Cross/Blue Shield, Commercial Insurers and Health Maintenance Organizations.
3. Public: Medicaid, Medicare, Healthy Start and Other Government.
4. Other: Workers' Compensation and Other.

**TABLE B-7**  
**PARITY<sup>1</sup> BY AGE OF MOTHER**  
**MASSACHUSETTS RESIDENT BIRTHS**  
**1989**

AGE OF MOTHER		TOTAL	1ST	2ND	3RD	4TH	5TH	6TH	7TH	8TH	≥9	UNKNOWN
TOTAL	#	91,314	40,447	29,490	13,872	4,683	1,504	528	232	114	103	341
	%	100.0	44.29	32.30	15.19	5.13	1.65	0.58	0.25	0.12	0.11	0.37
10-14	#	127	126	1	-- <sup>2</sup>	--	--	--	--	--	--	--
	%	0.14	0.14	0.003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	#	7,607	6,117	1,182	233	37	9	1	--	--	--	28
	%	8.33	6.70	1.29	0.26	0.04	0.01	0.01	0.00	0.00	0.00	0.03
20-24	#	18,728	9,980	5,675	2,195	623	145	31	8	3	1	67
	%	20.51	10.93	6.21	2.40	0.68	0.16	0.03	0.01	0.01	0.00	0.07
25-29	#	30,022	13,518	10,034	4,370	1,364	443	135	33	18	8	99
	%	32.88	14.80	10.99	4.78	1.49	0.48	0.15	0.04	0.02	0.01	0.11
30-34	#	24,429	8,046	9,029	4,764	1,640	524	193	87	27	33	86
	%	26.75	8.81	9.89	5.22	1.80	0.57	0.21	0.10	0.03	0.04	0.09
35-39	#	8,996	2,331	3,135	2,022	875	311	124	62	50	34	52
	%	9.85	2.55	3.43	2.21	0.96	0.34	0.14	0.07	0.05	0.04	0.06
40-44	#	1,362	316	427	280	141	72	41	39	14	23	9
	%	1.49	0.35	0.47	0.31	0.15	0.08	0.04	0.04	0.02	0.02	0.01
≥45	#	38	10	7	6	3	--	3	3	2	4	--
	%	0.04	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UNKNOWN AGE	#	5	3	--	2	--	--	--	--	--	--	--
	%	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

<sup>1</sup> The number of live births including this birth.

<sup>2</sup> --Indicates zero events.

<sup>3</sup> \*\*Percentage less than 0.01%. All percentages are based on total births.

**TABLE B-8**  
**NUMBER OF PRIMARY AND REPEAT CAESAREAN SECTIONS BY AGE**  
**MASSACHUSETTS RESIDENT BIRTHS**  
**1989**

AGE OF MOTHER	TOTAL CAESAREAN DELIVERIES	TOTAL BIRTHS	RATE PER 1,000 LIVE BIRTHS	PRIMARY CAESAREAN DELIVERIES	PERCENT OF TOTAL CAESAREAN	REPEAT CAESAREAN DELIVERIES	PERCENT OF TOTAL CAESAREAN
TOTAL	20,777	91,314	227.5	13,074	62.9	7,703	37.1
<15	25	127	196.8	25	100.0	-- <sup>1</sup>	--
15-19	1,225	7,607	161.0	1,068	87.2	157	12.8
20-24	3,665	18,728	195.7	2,600	70.9	1,065	29.1
25-29	6,742	30,022	224.6	4,307	63.9	2,435	36.1
30-34	6,142	24,429	251.4	3,431	55.9	2,711	44.1
35-39	2,538	8,996	282.1	1,402	55.2	1,136	44.8
40-44	429	1,362	315.0	233	54.3	196	45.7
≥45	8	38	210.5	5	62.5	3	37.5
UNKNOWN	3	5	600.0	3	100.0	--	--

<sup>1</sup> --Indicates zero events.

TABLE B-9  
BIRTHWEIGHT IN GRAMS BY AGE OF MOTHER  
NUMBER AND RATE PER THOUSAND LIVE BIRTHS  
MASSACHUSETTS RESIDENT BIRTHS: 1989

Birthweight (in grams)		Total	Age of Mother												Unknown
			<15	15	16	17	18	19	20-24	25-29	30-34	35-39	40-44	≥45	
Total	#	91,314	127	345	853	1,426	2,207	2,776	18,728	30,022	24,429	8,996	1,362	38	5
<500	# Rate	129 1.4	1 7.9	3 8.7	2 2.3	2 1.4	2 0.9	4 1.4	38 2.0	35 1.2	31 1.3	8 0.9	2 1.5	1 26.3	-- <sup>1</sup>
500-999	# Rate	372 4.1	4 31.5	3 8.7	6 7.0	8 5.6	15 6.8	17 6.1	71 3.8	116 3.9	85 3.5	41 4.6	6 4.4	--	--
1000-1499	# Rate	528 5.8	3 23.6	4 11.6	15 17.6	12 8.4	21 9.5	17 6.1	119 6.4	147 4.9	117 4.8	59 6.6	12 8.8	1 26.3	1 200.0
VLBW <sup>2</sup>	# Rate	1,029 11.3	8 63.0	10 29.0	23 27.0	22 15.4	38 17.2	38 13.7	228 12.2	298 9.9	233 9.5	108 12.0	20 14.7	2 52.6	1 200.0
1500-1999	# Rate	969 10.6	2 15.7	7 20.3	14 16.4	33 23.1	39 17.7	41 14.8	184 9.8	239 8.0	271 11.1	123 13.7	12 8.8	2 52.6	2 400.0
2000-2499	# Rate	3,375 37.0	8 63.0	19 55.1	40 46.9	64 44.9	109 49.4	132 47.5	769 41.1	1,057 35.2	797 32.6	329 36.6	50 36.7	1 26.3	--
LBW <sup>3</sup>	# Rate	5,373 58.8	18 141.7	36 104.3	77 90.3	119 83.4	186 84.3	211 76.0	1,181 63.1	1,594 53.1	1,301 53.3	560 62.2	82 60.2	5 131.6	3 600.0
2500-2999	# Rate	13,471 147.5	31 244.1	85 246.4	187 219.2	306 214.6	441 199.8	536 193.1	3,216 171.7	4,169 138.9	3,150 128.9	1,162 129.2	184 135.1	3 78.9	1 200.0
3000-3499	# Rate	32,338 354.1	46 362.2	122 353.6	332 389.1	534 374.5	862 390.6	1,054 379.7	6,976 372.5	10,563 351.8	8,392 343.5	3,014 335.0	431 316.4	11 289.1	1 200.0
3500-3999	# Rate	28,504 312.2	27 212.6	88 255.1	206 241.1	367 257.4	547 247.8	728 262.2	5,453 291.2	9,800 326.4	7,944 325.2	2,881 320.2	449 329.7	14 368.4	--
4000-4499	# Rate	9,542 104.5	4 31.5	10 29.0	48 56.3	80 56.1	138 62.5	223 80.3	1,582 84.5	3,175 105.8	2,971 121.6	1,132 125.8	176 129.2	3 78.9	--
4500-4999	# Rate	1,766 19.3	--	3 8.7	2 2.3	13 9.1	28 12.7	18 6.5	275 14.7	618 20.6	573 23.5	204 22.7	30 22.0	2 52.6	--
≥ 5000	# Rate	202 2.2	--	--	--	5 3.5	2 0.9	2 0.7	27 1.4	67 2.2	67 2.7	26 2.9	6 4.4	--	--
Unknown	# Rate	118 1.3	1 7.9	1 2.9	1 1.2	2 1.4	3 1.4	4 1.4	18 1.0	36 1.2	31 1.3	17 1.9	4 2.9	--	--

<sup>1</sup> -- indicates zero events.

# TECHNICAL NOTES FOR TABLE B-10 HOSPITAL PROFILES MASSACHUSETTS OCCURRENCE BIRTHS 1989

The figures in the "Occurrence Births" column for each of the 58 birthing hospitals indicate the total number of births that occurred at each hospital as reported to the Massachusetts Department of Public Health. Percents shown in this column indicate the percentage of the total Massachusetts births occurring at each hospital.

Each race category by individual hospital should be regarded as a separate entity. Example: Brigham and Women's Hospital reported 10,277 occurrence births in 1989. Of these, 68.8% were to white, non-Hispanic women, 15.1% were to black, non-Hispanic women, 12.0% were to Hispanic women, etc. Of the 68.8% of births to white, non-Hispanic mothers, 26.1% of these babies were delivered by Caesarean Section (1,195 primary C-Section deliveries and 633 repeat C-Section deliveries).

The percent of low birthweight (less than 2,500 grams) babies born to white, non-Hispanic mothers was 10.6%, and 93.9% of white, non-Hispanic mothers at Brigham and Women's Hospital received adequate prenatal care. The adequacy of prenatal care variable is based on two factors: the month a woman registers for prenatal care and the total number of visits for prenatal care. Please refer to the definitions at the beginning of this section for further explanation.

In addition, of the white, non-Hispanic mothers who gave birth at Brigham and Women's Hospital, 71.1% breast-fed their babies and 91.7% paid for their babies' deliveries by private insurer (Blue Cross/Blue Shield, etc.).

Although St. Vincent's Hospital in Worcester accounted for only 2.6% of total 1989 occurrence births, this hospital accounted for almost 22.7% of births reported with unknown mother's race. By comparison, the next highest percentage of births showing unknown mother's race/ethnicity occurred at Beth Israel Hospital in Boston. Beth Israel Hospital accounted for 6.2% of 1989 occurrence births and had 15.9% of the statewide births with unknown mother's race.

## Additional Notes:

1. Percents may not sum to 100.0 due to rounding.
2. --Zero events are indicated by dashes.
3. Calculations based on fewer than 10 births per race category in all columns other than Method of Delivery are indicated by "\*\*\*" across the entire row. In these cases, only the percent of births by race of mother is presented.
4. Calculations based on 15 or fewer Caesarean-section births per race category are indicated by "\*\*\*" in the three Method of Delivery columns.

TABLE B-10  
HOSPITAL PROFILES  
MASSACHUSETTS OCCURRENCE BIRTHS  
1989

Hospital Name	City/Town	Occurrence Births	% of Births by Mother's Race/Ethnicity	Method of Delivery			% Low Birth Weight	% Adequate Prenatal Care	% Mothers Breast Feeding	Delivery Method of Payment				
				Cesarean						% Private	% Public Assistance	% Free & Self Paid	% Other	% Unknown
				% Total	# Primary	# Repeat								
Addison Gilbert	Gloucester	274 0.3%	TOTAL	100.0	48	21	3.3	85.8	46.7	70.4	28.1	1.5	-	-
			White	8.0	43	21	3.0	86.3	46.0	70.7	27.6	1.5	-	-
			Black	-	-	-	-	-	-	-	-	-	-	-
			Hispanic	2.6	-	-	-	-	-	-	-	-	-	-
			Asian	1.1	-	-	-	-	-	-	-	-	-	-
			Other	0.4	-	-	-	-	-	-	-	-	-	-
Anna Jaques	Newburyport	867 1.0%	TOTAL	100.0	101	68	3.8	86.2	57.7	74.7	18.4	3.8	2.9	-
			White	87.3	97	66	3.8	86.7	57.5	76.0	17.3	3.9	2.8	-
			Black	0.2	-	-	-	-	-	-	-	-	-	-
			Hispanic	1.6	-	-	7.1	57.1	50.0	21.4	71.4	-	7.1	-
			Asian	0.6	-	-	-	-	-	-	-	-	-	-
			Other	0.2	-	-	-	-	-	-	-	-	-	-
Atlanticare Medical Center	Lynn	721 0.8%	TOTAL	100.0	106	72	4.6	81.7	31.2	56.7	39.3	1.7	1.1	1.2
			White	69.5	62	56	3.4	72.1	32.1	73.1	23.8	1.2	0.8	1.4
			Black	9.6	-	-	18.8	33.3	27.5	30.4	68.7	1.4	1.4	-
			Hispanic	11.0	11	8	1.3	41.8	43.0	8.8	84.8	3.8	2.5	-
			Asian	8.0	-	-	3.1	41.5	12.3	18.5	76.9	3.1	1.5	-
			Other	0.6	-	-	-	-	-	-	-	-	-	-
Bay State Medical Center	Springfield	8,120 6.6%	TOTAL	100.0	941	571	8.4	64.0	47.6	63.8	33.0	2.7	0.1	0.2
			White	69.3	688	415	7.0	73.4	53.5	78.6	17.6	2.8	-	0.2
			Black	12.0	117	67	13.7	42.1	30.4	33.2	83.9	2.4	0.1	0.3
			Hispanic	16.7	122	80	10.3	43.4	35.9	21.7	74.7	2.5	0.8	0.5
			Asian	1.2	-	-	5.8	37.5	54.2	65.3	25.0	8.3	1.4	-
			Other	0.3	-	-	20.0	50.0	50.0	45.0	50.0	5.0	-	-
Berkshire Medical Center	Pittsfield	1,344 1.4%	TOTAL	100.0	186	113	18.7	54.2	20.6	82.5	25.0	12.5	-	-
			White	85.2	185	104	5.1	73.9	57.0	76.6	20.0	2.8	0.8	-
			Black	2.1	-	-	3.8	42.9	17.9	21.4	78.6	-	0.5	-
			Hispanic	1.0	-	-	7.1	64.3	50.0	71.4	21.4	-	7.1	-
			Asian	1.5	-	-	10.0	55.0	80.0	70.0	25.0	5.0	-	-
			Other	0.1	-	-	-	-	-	-	-	-	-	-
Beth Israel	Boston	5,800 6.2%	TOTAL	100.0	614	407	5.6	76.1	64.2	78.2	19.2	1.8	0.8	-
			White	65.0	575	261	5.1	85.7	72.8	90.9	7.2	1.1	0.8	-
			Black	17.8	112	71	7.9	50.4	49.4	49.0	48.1	1.5	0.8	-
			Hispanic	8.4	44	24	7.0	58.8	65.2	52.3	44.2	3.0	0.5	-
			Asian	8.9	58	21	3.1	72.2	33.0	61.6	30.8	6.8	0.8	-
			Other	1.5	11	8	8.1	57.0	62.8	68.6	28.7	2.3	2.3	-
			Unknown	0.6	14	2	8.6	62.9	48.6	62.9	11.4	2.8	2.8	



TABLE B-10 (continued)  
HOSPITAL PROFILES  
MASSACHUSETTS OCCURRENCE BIRTHS  
1989

Hospital Name	City/Town	Occurrence Births	% of Births by Mother's Race/Ethnicity	Method of Delivery			% Low Birth Weight	% Adequate Prenatal Care	% Mothers Breast Feeding	Delivery Method of Payment				
				Caesarean						% Private	% Public Assistance	% Free & Self Paid	% Other	% Unknown
				% Total	# Primary	# Repeat								
Beverly	Beverly	1,693 1.8%	TOTAL 100.0 White 85.5 Black 0.8 Hispanic 1.5 Asian 1.6 Other 0.2 Unknown 0.2	23.0 22.8 ** ** ** ** **	255 242 ** ** ** ** **	134 128 ** ** ** ** **	2.4 2.4 6.2 - 3.7 ** **	82.0 82.8 43.7 68.0 70.4 ** **	65.2 64.7 75.0 84.0 74.1 ** **	88.4 88.7 88.7 78.0 88.8 ** **	8.2 7.9 31.2 24.0 3.7 ** **	1.5 1.5 - - 3.7 ** **	0.8 0.8 - - 3.7 ** **	
Boston City	Boston	1,885 1.8%	TOTAL 100.0 White 13.3 Black 86.0 Hispanic 15.6 Asian 2.8 Other 2.4 Unknown 0.1	18.8 14.8 18.3 22.3 ** ** **	232 28 148 42 ** ** **	77 5 54 18 ** ** **	13.8 12.7 15.5 11.2 8.8 5.0 **	28.8 31.2 24.7 31.5 34.1 20.0 **	32.4 14.8 33.7 40.8 22.7 52.5 **	12.1 18.6 12.0 7.7 8.1 12.5 **	76.6 68.8 77.3 82.3 78.5 65.0 **	9.8 11.8 8.8 8.1 8.8 22.5 **	0.8 0.8 0.7 1.2 2.3 - **	
Bingham and Women's	Boston	10,277 11.0%	TOTAL 100.0 White 88.8 Black 15.1 Hispanic 12.0 Asian 3.8 Other 0.4 Unknown -	24.8 26.1 21.2 21.4 18.7 ** -	1,812 1,195 215 142 49 ** -	878 833 106 113 22 ** -	11.0 10.8 14.0 10.3 7.8 18.8 -	88.1 83.8 72.8 81.8 88.7 87.0 -	66.3 71.1 45.8 60.7 78.1 73.8 -	80.1 81.7 60.7 38.3 88.4 67.4 -	14.1 4.5 4.7 46.3 5.4 15.2 -	4.1 1.7 4.1 18.6 4.1 13.0 -	1.7 2.1 0.5 0.8 1.1 4.3 -	
Brockton	Brockton	1,210 1.3%	TOTAL 100.0 White 85.1 Black 7.0 Hispanic 3.3 Asian 1.7 Other 2.5 Unknown 0.4	18.7 18.7 23.5 ** ** ** **	153 131 12 ** ** ** **	85 72 8 ** ** ** **	5.2 4.8 7.1 10.0 5.0 10.0 **	60.8 65.2 28.4 50.0 50.0 23.3 **	43.8 44.1 36.5 55.0 35.0 46.7 **	72.7 78.1 28.4 32.5 50.0 48.7 **	24.9 18.3 89.4 62.5 50.0 53.3 **	2.1 2.1 1.2 5.0 - - **	0.3 0.4 - - - - **	
Burbank	Fitchburg	1,058 1.1%	TOTAL 100.0 White 83.6 Black 4.2 Hispanic 7.2 Asian 4.4 Other 0.6 Unknown 0.1	10.9 11.4 ** ** ** ** **	78 71 ** ** ** ** **	37 30 ** ** ** ** **	3.8 3.3 6.8 3.8 8.4 ** **	68.2 71.2 40.8 47.4 25.5 ** **	55.4 57.2 45.5 50.0 ** ** **	60.7 66.5 27.3 18.4 53.2 ** **	35.5 30.1 88.2 73.7 42.8 ** **	2.1 1.8 2.3 6.8 4.3 ** **	1.7 1.8 2.3 1.3 - ** **	
Cambridge City	Cambridge	688 0.7%	TOTAL 100.0 White 45.4 Black 23.2 Hispanic 24.3 Asian 5.7 Other 1.5 Unknown -	20.4 25.7 18.4 15.4 ** ** -	100 58 22 17 ** ** -	38 18 8 8 ** ** -	4.8 5.0 3.2 4.8 5.3 20.0 -	57.8 61.4 51.0 58.9 47.4 50.0 -	54.5 37.0 67.7 76.5 42.1 70.0 -	38.8 54.5 31.6 20.4 26.3 20.0 -	50.7 37.0 54.2 70.4 57.8 70.0 -	8.8 12.8 6.9 7.4 13.2 10.0 -	1.8 1.7 1.3 1.8 2.8 - -	

TABLE B-10 (continued)  
HOSPITAL PROFILES  
MASSACHUSETTS OCCURRENCE BIRTHS  
1989

Hospital Name	City/Town	Occurrence Births	% of Births by Mother's Race/Ethnicity	Method of Delivery			% Low Birth Weight	% Adequate Prenatal Care	% Mothers Breast Feeding	Delivery Method of Payment					
				% Total	Cesarean					% Private	% Public Assistance	% Free & Self Paid	% Other	% Unknown	
					# Primary	# Repeat									
Cape Cod	Barnstable	1,261 1.4%	TOTAL	26.2	190	141	3.7	78.7	46.3	69.3	26.2	3.7	0.8	-	
			White	26.5	178	132	3.1	80.4	46.8	72.1	23.5	3.5	0.9	-	
			Black	..	..	..	20.9	55.9	35.3	29.4	81.8	6.8	-	-	
			Hispanic	..	..	..	-	65.0	40.0	20.0	75.0	5.0	-	-	
			Asian	..	..	..	16.7	50.0	41.7	56.3	25.0	16.7	-	-	
			Other	..	..	..	7.7	57.7	46.2	36.5	81.5	-	-	-	
Unknown	-	-	-	-	-	-	-	-	-	-	-	-	-		
Charlton Memorial	Fall River	2,073 2.2%	TOTAL	21.4	282	151	8.7	70.7	31.2	71.4	27.3	1.2	-	-	
			White	21.6	267	146	8.5	71.9	31.0	72.5	26.2	1.2	-	-	-
			Black	..	..	..	15.6	47.4	21.1	47.4	52.6	-	-	-	-
			Hispanic	..	..	..	-	25.0	58.3	16.7	83.3	-	-	-	-
			Asian	..	..	..	18.2	42.4	36.4	39.4	60.6	-	-	-	-
			Other	..	..	..	-	-	-	-	-	-	-	-	-
Unknown	-	-	-	-	-	-	-	-	-	-	-	-	-		
Cooley-Dickerson	Northampton	1,162 1.3%	TOTAL	24.5	167	103	1.8	84.9	67.1	81.2	16.8	1.7	0.3	-	
			White	25.0	171	84	2.1	67.5	67.7	83.6	14.8	1.5	0.3	-	-
			Black	..	..	..	..	..	..	..	..	..	..	..	..
			Hispanic	..	..	..	2.1	54.2	62.5	43.7	54.2	2.1	-	-	-
			Asian	..	..	..	-	70.6	64.7	76.5	17.6	5.8	-	-	-
			Other	..	..	..	-	75.0	56.3	66.7	33.3	-	-	-	-
Unknown	-	-	-	-	-	-	-	-	-	-	-	-	-		
Emerson	Concord	1,977 2.1%	TOTAL	17.7	220	130	2.1	81.5	75.7	86.7	9.5	1.3	0.5	-	
			White	17.2	202	119	2.1	81.7	75.5	89.4	8.7	1.4	0.5	-	-
			Black	..	..	..	-	76.2	66.7	61.9	38.1	-	-	-	-
			Hispanic	..	..	..	3.0	67.8	72.7	72.7	24.2	-	3.0	-	-
			Asian	..	..	..	4.4	81.1	86.7	86.7	13.3	-	-	-	-
			Other	..	..	..	..	80.9	80.9	81.6	16.2	-	-	-	-
Unknown	0.1	..	..	..	..	..	..	..	..	..	..	..	..		
Fairview	Great Barrington	159 0.2%	TOTAL	23.3	24	13	2.5	76.7	56.6	67.3	23.9	6.9	1.9	-	
			White	23.8	24	13	2.6	79.1	56.8	56.4	22.6	7.1	1.9	-	-
			Black	..	..	..	..	..	..	..	..	..	..	..	..
			Hispanic	..	..	..	..	..	..	..	..	..	..	..	..
			Asian	..	..	..	-	-	-	-	-	-	-	-	-
			Other	..	..	..	-	-	-	-	-	-	-	-	-
Unknown	-	-	-	-	-	-	-	-	-	-	-	-	-		
Falmouth	Falmouth	640 0.7%	TOTAL	21.1	84	51	3.6	62.7	66.7	60.9	34.5	3.1	1.4	-	
			White	21.3	77	47	3.6	63.6	67.3	64.0	31.3	3.3	1.4	-	-
			Black	..	..	..	3.6	69.2	65.4	30.8	61.5	3.6	3.6	-	-
			Hispanic	..	..	..	..	..	..	..	..	..	..	..	..
			Asian	..	..	..	..	..	..	..	..	..	..	..	..
			Other	..	..	..	5.9	76.5	56.9	17.6	82.4	-	-	-	-
Unknown	-	-	-	-	-	-	-	-	-	-	-	-	-		

TABLE B-10 (continued)  
HOSPITAL PROFILES  
MASSACHUSETTS OCCURRENCE BIRTHS  
1989

Hospital Name	City/Town	Occurrence Births	% of Births by Mother's Race/Ethnicity	Method of Delivery			% Low Birth Weight	% Adequate Prenatal Care	% Mothers Breast Feeding	Delivery Method of Payment				
				Cesarean						% Private	% Public Assistance	% Free & Self Paid	% Other	% Unknown
				% Total	# Primary	# Repeat								
Framingham Union	Framingham	2,191 2.3%	TOTAL	25.8	363	203	3.9	87.1	51.4	85.8	12.4	1.7	0.1	-
			White	87.8	310	177	3.8	89.4	49.7	89.8	8.4	1.7	0.1	-
			Black	1.8	**	**	5.0	67.5	50.0	50.0	50.0	-	-	-
			Hispanic	7.1	41	14	4.5	65.2	65.8	44.5	51.8	3.9	-	-
			Asian	3.1	**	**	6.0	86.8	64.2	86.8	13.4	-	-	-
			Other	0.5	**	**	-	80.0	80.0	90.0	10.0	-	-	-
Franklin Medical Center	Greenfield	939 1.0%	TOTAL	19.9	108	78	3.2	81.0	60.8	68.3	28.9	2.4	0.6	0.1
			White	87.5	107	77	3.3	81.4	60.9	68.2	27.7	2.4	0.7	-
			Black	0.2	**	**	-	72.7	83.8	27.3	72.7	-	**	**
			Hispanic	1.2	**	**	-	**	**	**	**	**	**	**
			Asian	0.5	**	**	**	**	**	**	**	**	**	**
			Other	0.4	**	**	**	**	**	**	**	**	**	**
Goddard Memorial	Stoughton	2,181 2.3%	TOTAL	20.2	271	185	3.7	68.0	37.7	69.3	28.9	3.8	0.2	-
			White	83.5	219	139	3.7	89.9	37.4	73.8	22.8	3.3	0.3	-
			Black	7.3	19	13	4.5	43.9	36.9	45.2	48.7	5.1	-	-
			Hispanic	4.0	10	7	1.2	41.9	46.5	27.8	88.3	5.8	-	-
			Asian	1.5	**	**	9.4	62.5	34.4	62.5	31.2	8.2	-	-
			Other	3.7	14	5	3.8	50.8	39.0	82.0	35.4	2.5	-	**
Hale	Haverhill	822 0.9%	TOTAL	17.8	92	54	4.7	70.2	42.9	60.0	34.3	5.0	0.7	-
			White	84.8	80	40	4.7	73.6	43.3	63.6	30.4	5.2	0.9	-
			Black	1.9	**	**	-	81.2	43.7	81.2	18.7	-	-	-
			Hispanic	10.7	11	10	8.8	44.3	42.0	30.7	65.9	3.4	-	-
			Asian	1.8	**	**	-	61.5	30.8	53.8	38.5	7.7	-	-
			Other	0.9	**	**	**	**	**	**	**	**	**	**
Harrington Memorial	Southbridge	828 0.7%	TOTAL	22.2	90	49	3.0	79.8	44.4	64.7	32.4	2.7	0.2	-
			White	87.4	79	37	3.3	80.4	44.8	69.1	27.6	3.1	0.2	-
			Black	0.2	**	**	-	**	**	**	**	**	**	**
			Hispanic	10.4	8	11	1.5	72.3	43.1	33.8	66.2	-	-	-
			Asian	1.9	**	**	-	83.3	41.7	33.3	66.7	-	**	**
			Other	0.2	**	**	**	**	**	**	**	**	**	**
Henry Heywood Memorial	Gardner	380 0.4%	TOTAL	21.8	49	34	5.8	59.5	41.8	57.9	39.2	1.3	1.8	-
			White	98.1	47*	34	5.8	60.5	42.5	59.4	38.6	1.4	1.8	-
			Black	0.3	**	**	**	**	**	**	**	**	**	**
			Hispanic	2.1	**	**	**	**	**	**	**	**	**	**
			Asian	1.8	**	**	**	**	**	**	**	**	**	**
			Other	-	-	-	-	-	-	-	-	-	-	-

TABLE B-10 (continued)  
HOSPITAL PROFILES  
MASSACHUSETTS OCCURRENCE BIRTHS  
1989

Hospital Name	City/Town	Occurrence Births	% of Births by Mother's Race/Ethnicity	Method of Delivery			% Low Birth Weight	% Adequate Prenatal Care	% Mothers Breast Feeding	Delivery Method of Payment					
				Caesarean						% Public Assistance	% Free & Self Paid	% Other	% Unknown		
				% Total	# Primary	# Repeat									
Holy Family	Methuen	1,155 1.2%	TOTAL	30.3	204	146	3.8	71.8	48.7	65.6	28.5	4.3	1.8	-	
			White	31.1	148	112	2.3	81.8	46.4	80.0	13.8	4.5	1.9	-	
			Black	**	**	**	14.3	21.4	35.7	28.8	64.3	7.1	0.7	-	
			Hispanic	28.4	52	30	7.5	45.5	55.6	22.8	72.8	3.6	0.7	-	
			Asian	**	**	**	13.8	58.1	54.5	81.8	13.6	4.5	-	-	
			Other	**	**	**	**	**	**	**	**	**	**	**	-
Hunt Memorial	Danvers	491 0.5%	TOTAL	22.4	70	40	1.4	83.8	65.4	87.4	8.4	2.8	0.8	-	
			White	22.8	86	40	1.3	83.8	85.4	88.1	8.0	2.3	0.8	-	
			Black	**	**	**	**	**	**	**	**	**	**	**	-
			Hispanic	**	**	**	**	**	**	**	**	**	**	**	-
			Asian	**	**	**	**	**	**	**	**	**	**	**	-
			Other	-	-	-	-	-	-	-	-	-	-	-	-
Jordan	Plymouth	837 0.8%	TOTAL	21.3	121	57	1.8	78.0	50.4	75.8	22.1	2.0	-	-	
			White	21.1	118	54	1.7	79.6	50.6	77.3	20.7	2.0	-	-	
			Black	**	**	**	8.1	54.5	27.3	18.2	72.7	8.1	-	-	
			Hispanic	**	**	**	**	**	**	**	**	**	**	**	-
			Asian	**	**	**	**	**	**	**	**	**	**	**	-
			Other	**	**	**	**	**	**	**	**	**	**	**	-
Lawrence General	Lawrence	1,891 2.1%	TOTAL	22.5	253	184	5.1	76.8	51.5	60.4	37.0	2.4	0.3	-	
			White	23.0	158	112	4.1	87.3	43.9	84.0	13.5	2.1	0.3	-	
			Black	**	**	**	15.4	42.3	28.8	53.8	48.2	-	-	-	
			Hispanic	22.3	82	78	6.4	60.8	68.2	21.6	75.8	2.4	0.3	-	
			Asian	**	**	**	4.3	74.3	35.7	68.6	27.1	4.3	-	-	
			Other	**	**	**	-	71.4	64.3	57.1	28.8	14.3	-	-	
Leominster	Leominster	1,436 1.5%	TOTAL	21.3	180	125	4.0	88.4	52.4	67.9	28.5	2.4	0.2	-	
			White	20.5	137	101	3.7	72.8	52.5	74.1	23.4	2.2	0.3	-	
			Black	**	**	**	10.5	52.8	48.1	24.8	73.7	1.8	-	-	
			Hispanic	27.7	28	15	3.2	53.5	56.7	43.9	53.5	2.5	-	-	
			Asian	**	**	**	3.7	59.3	44.4	53.7	40.7	5.6	-	-	
			Other	**	**	**	**	**	**	**	**	**	**	**	-
Leonard Morse	Natick	734 0.8%	TOTAL	20.5	81	58	3.7	82.1	65.1	88.0	8.4	1.9	0.5	0.1	
			White	20.9	84	56	3.7	82.1	84.3	90.3	7.5	1.8	0.4	-	
			Black	**	**	**	**	**	**	**	**	**	**	**	-
			Hispanic	**	**	**	3.6	85.7	82.1	64.3	32.1	3.6	-	-	
			Asian	**	**	**	3.6	100.0	61.5	84.8	7.7	3.8	3.8	-	
			Other	**	**	**	**	**	**	**	**	**	**	**	-

TABLE B-10 (continued)  
HOSPITAL PROFILES  
MASSACHUSETTS OCCURRENCE BIRTHS  
1989

Hospital Name	City/Town	Occurrence Births	% of Births by Mother's Race/Ethnicity	Method of Delivery			% Low Birth Weight	% Adequate Prenatal Care	% Mothers Breast Feeding	Delivery Method of Payment					
				% Total	Cesarean					% Public Assistance	% Free & Self Paid	% Other	% Unknown		
					# Primary	# Repeat									
Lowell General	Lowell	2,491 2.7 %	TOTAL	20.3	298	210	4.0	71.4	33.0	82.6	35.6	1.6	0.2	-	
			White	69.2	228	171	4.2	82.4	36.0	75.4	22.6	1.8	0.2	-	
			Black	1.9	**	**	-	56.2	54.2	45.8	47.9	6.2	-	-	-
			Hispanic	11.1	28	24	2.5	50.8	35.0	26.4	71.9	1.4	0.4	-	-
			Asian	17.6	34	11	4.8	42.7	17.8	36.8	82.8	0.2	0.5	-	-
			Other	0.1	**	**	**	**	**	**	**	**	**	**	**
Malden	Malden	1,931 2.0 %	TOTAL	27.2	317	181	3.8	81.9	38.2	89.6	27.7	3.7	-	-	
			White	85.6	283	158	3.3	83.7	37.8	73.8	22.8	3.3	-	-	-
			Black	2.7	**	**	8.0	88.0	54.0	42.0	58.0	2.0	-	-	-
			Hispanic	5.2	15	13	7.4	74.7	48.4	38.8	57.9	5.3	-	-	-
			Asian	5.2	**	**	4.2	69.8	19.8	33.3	58.3	8.3	-	-	-
			Other	0.9	**	**	11.8	59.8	82.4	35.3	52.9	11.8	-	-	-
Martha's Vineyard	Oak Bluffs	187 0.2 %	TOTAL	25.7	29	14	2.4	80.9	66.9	74.9	19.8	4.2	0.8	0.6	
			White	93.4	28	14	2.6	81.4	68.8	78.9	17.3	4.5	0.8	0.6	0.6
			Black	1.8	**	**	**	**	**	**	**	**	**	**	**
			Hispanic	0.6	**	**	**	**	**	**	**	**	**	**	**
			Asian	1.2	**	**	**	**	**	**	**	**	**	**	**
			Other	2.4	**	**	**	**	**	**	**	**	**	**	**
Mary Lane	Ware	200 0.2 %	TOTAL	27.0	24	30	3.0	77.0	44.5	72.0	28.5	1.0	0.5	-	
			White	97.5	24	28	2.6	71.4	44.6	72.8	25.8	1.0	0.5	-	-
			Black	1.0	**	**	**	**	**	**	**	**	**	**	**
			Hispanic	1.0	**	**	**	**	**	**	**	**	**	**	**
			Asian	0.5	**	**	**	**	**	**	**	**	**	**	**
			Other	-	-	-	-	-	-	-	-	-	-	-	-
Medrose-Wakefield	Medrose	1,245 1.3 %	TOTAL	32.0	214	185	3.2	90.4	45.0	90.7	7.2	1.4	0.8	-	
			White	96.6	210	184	3.2	90.5	44.1	90.7	7.2	1.4	0.7	-	-
			Black	0.2	**	**	**	**	**	**	**	**	**	**	**
			Hispanic	1.0	**	**	-	92.3	76.9	92.3	-	7.7	-	-	-
			Asian	1.5	**	**	5.3	84.2	68.4	100.0	-	-	-	-	-
			Other	0.5	**	**	**	**	**	**	**	**	**	**	**
Milford-Whitinsville	Milford	646 0.7 %	TOTAL	27.8	123	57	2.3	62.1	35.9	74.6	22.8	2.5	0.2	-	
			White	84.0	116	54	2.5	63.6	36.1	75.8	21.6	2.5	0.2	-	-
			Black	0.8	**	**	**	**	**	**	**	**	**	**	**
			Hispanic	3.9	**	**	-	40.0	20.0	44.0	52.0	4.0	-	-	-
			Asian	1.2	**	**	**	**	**	**	**	**	**	**	**
			Other	0.2	**	**	**	**	**	**	**	**	**	**	**

TABLE B-10 (continued)  
HOSPITAL PROFILES  
MASSACHUSETTS OCCURRENCE BIRTHS  
1989

Hospital Name	City/Town	Occurrence Births	% of Births by Mother's Race/Ethnicity	Method of Delivery			% Low Birth Weight	% Adequate Prenatal Care	% Mothers Breast Feeding	Delivery Method of Payment					
				Caesarean						% Public Assistance	% Free & Self Paid	% Other	% Unknown		
				% Total	# Primary	# Repeat									
Morton	Taunton	722 0.8%	TOTAL	100.0	34.8	158	94	6.1	78.4	35.6	71.7	26.3	1.8	—	—
			White	89.3	35.7	145	85	5.7	81.7	35.5	76.1	21.7	2.2	—	—
			Black	2.9	..	..	..	18.0	47.6	23.8	33.3	66.7	—	—	—
			Hispanic	4.7	..	..	..	2.9	61.8	41.2	26.5	73.5	—	—	—
			Asian	0.7	..	..	..	..	..	..	..	..	..	..	..
			Other	2.4	..	..	..	11.8	58.8	29.4	41.2	58.8	—	—	—
Mount Auburn	Cambridge	1,471 1.6%	TOTAL	100.0	21.7	202	117	2.5	74.5	64.6	70.2	24.3	2.5	2.8	0.2
			White	76.2	22.3	156	84	1.8	78.2	62.6	77.0	18.1	2.1	2.7	0.2
			Black	6.8	23.0	13	10	6.0	52.0	66.0	57.0	38.0	3.0	2.0	—
			Hispanic	9.0	17.4	12	11	3.0	62.1	78.0	31.8	64.4	1.5	1.5	0.8
			Asian	4.8	..	..	..	6.8	75.0	87.5	13.8	72.2	8.3	5.8	—
			Other	1.4	..	..	..	10.0	60.0	65.0	45.0	45.0	5.0	5.0	—
Nantucket Cottage	Nantucket	82 0.1%	TOTAL	100.0	..	..	..	..	73.1	15.4	38.5	48.2	7.7	7.7	—
			White	82.7	..	..	..	3.7	82.8	74.4	78.3	12.2	8.1	2.4	—
			Black	2.4	..	..	..	3.8	84.2	75.0	81.6	8.2	8.8	2.6	—
			Hispanic	2.4	..	..	..	..	..	..	..	..	..	..	..
			Asian	—	..	..	..	—	—	—	—	—	—	—	—
			Other	2.4	..	..	..	..	..	..	..	..	..	..	..
New England Memorial	Stonham	1,037 1.1%	TOTAL	100.0	29.0	198	103	2.9	91.3	59.9	91.2	5.1	2.6	1.1	—
			White	95.1	28.9	184	101	2.4	91.5	59.6	91.7	4.7	2.5	1.1	—
			Black	1.0	..	..	..	—	80.0	70.0	60.0	40.0	—	—	—
			Hispanic	1.2	..	..	..	8.3	100.0	75.0	83.3	—	16.7	—	—
			Asian	2.4	..	..	..	12.0	84.0	64.0	88.0	12.0	—	—	—
			Other	0.2	..	..	..	..	..	..	..	..	..	..	..
Newton-Wellesley	Newton	2,956 3.2%	TOTAL	100.0	20.4	366	236	2.9	95.8	63.2	92.5	1.1	0.8	1.8	3.7
			White	94.1	20.5	348	222	2.9	96.2	62.8	92.8	1.0	0.7	1.9	3.4
			Black	1.7	..	..	..	2.0	89.8	71.4	85.7	4.1	—	2.0	8.2
			Hispanic	1.0	..	..	..	3.2	90.3	64.5	93.5	—	—	6.5	—
			Asian	2.6	..	..	..	3.9	96.1	72.4	93.4	1.3	3.8	—	1.3
			Other	0.4	..	..	..	—	91.7	75.0	66.7	8.3	—	—	25.0
North Adams Regional	North Adams	463 0.5%	TOTAL	100.0	17.7	52	30	4.5	86.0	48.4	68.7	30.2	1.1	—	—
			White	96.5	18.3	52	30	4.7	86.6	48.1	69.1	29.8	1.1	—	—
			Black	0.6	..	..	..	..	..	..	..	..	..	..	..
			Hispanic	1.1	..	..	..	..	..	..	..	..	..	..	..
			Asian	1.3	..	..	..	..	..	..	..	..	..	..	..
			Other	0.4	..	..	..	..	..	..	..	..	..	..	..

TABLE B-10 (continued)  
HOSPITAL PROFILES  
MASSACHUSETTS OCCURRENCE BIRTHS  
1989

Hospital Name	City/Town	Occurrence Births	% of Births by Mother's Race/Ethnicity	Method of Delivery			% Low Birth Weight	% Adequate Prenatal Care	% Mothers Breast Feeding	Delivery Method of Payment				
				Cesarean		# Repeat				% Private	% Public Assistance	% Free & Self Paid	% Other	% Unknown
				% Total	# Primary									
Norwood	Norwood	1,201 1.3%	TOTAL	21.3	139	117	3.4	81.8	54.2	89.2	8.8	2.0	2.0	-
			White	86.5	132	112	3.2	82.4	54.1	90.0	8.4	1.6	2.0	-
			Black	1.1	**	**	15.4	81.5	69.2	61.5	30.8	7.7	-	-
			Hispanic	1.1	**	**	15.4	84.8	53.6	68.2	7.7	15.4	7.7	-
			Asian	1.2	**	**	**	78.8	57.1	71.4	21.4	7.1	**	**
			Other	0.2	**	**	**	**	**	**	**	**	**	**
Providence	Holyoke	1,864 1.8%	TOTAL	17.2	178	108	1.6	59.8	51.6	57.8	38.8	2.5	1.0	-
			White	74.2	150	84	1.3	63.2	51.1	73.1	22.7	3.0	1.2	-
			Black	1.5	**	**	-	44.0	40.0	32.0	88.0	-	-	-
			Hispanic	23.1	27	22	2.1	50.8	52.8	10.7	88.3	0.8	0.3	-
			Asian	0.8	**	**	13.3	46.7	80.0	46.7	48.7	8.7	-	-
			Other	0.3	**	**	**	**	**	**	**	**	**	**
Quincy City	Quincy	860 1.0%	TOTAL	28.1	180	90	2.3	63.3	51.5	82.5	15.2	1.7	0.6	-
			White	94.8	168	88	2.3	63.4	51.2	83.0	14.7	1.8	0.7	-
			Black	0.9	**	**	**	**	**	**	**	**	**	**
			Hispanic	1.0	**	**	-	80.0	90.0	70.0	30.0	-	-	-
			Asian	2.7	**	**	-	69.2	50.0	88.5	11.5	-	-	-
			Other	0.5	**	**	**	**	**	**	**	**	**	**
Salem	Salem	2,007 2.1%	TOTAL	18.8	236	143	3.6	88.2	49.7	68.2	28.7	1.5	1.5	-
			White	78.7	196	117	3.4	90.1	47.7	79.4	17.6	1.4	1.5	-
			Black	3.4	**	**	7.2	73.8	40.6	24.6	68.6	4.3	1.4	-
			Hispanic	13.7	25	18	3.6	85.8	65.8	22.5	74.2	1.5	1.8	-
			Asian	2.7	**	**	5.5	65.5	40.0	32.7	63.8	1.8	1.8	-
			Other	0.3	**	**	**	**	**	**	**	**	**	**
South Shore	Weymouth	2,172 2.3%	TOTAL	26.2	333	235	2.8	91.7	59.9	93.0	4.0	3.0	-	-
			White	97.6	326	234	2.7	92.2	59.6	93.5	3.4	3.0	-	-
			Black	0.4	**	**	**	**	**	**	**	**	**	**
			Hispanic	0.6	**	**	-	78.5	64.7	76.5	17.6	5.9	-	-
			Asian	1.0	**	**	4.8	76.2	71.4	71.4	23.8	4.8	-	-
			Other	0.2	**	**	**	**	**	**	**	**	**	**
St. Elizabeth's	Boston	1,428 1.5%	TOTAL	26.4	241	138	2.9	74.4	30.1	66.4	31.3	2.0	0.3	-
			White	61.6	158	102	3.1	86.1	26.5	82.0	15.8	1.7	0.5	-
			Black	7.0	13	4	5.0	60.0	43.0	57.0	43.0	-	-	-
			Hispanic	19.7	22.8	44	1.4	50.2	40.9	25.3	71.5	3.2	-	-
			Asian	11.0	18.5	22	2.5	61.1	22.9	58.0	38.3	3.2	-	-
			Other	0.7	**	**	10.0	80.0	80.0	70.0	30.0	-	-	-

TABLE B-10 (continued)  
HOSPITAL PROFILES  
MASSACHUSETTS OCCURRENCE BIRTHS  
1989

Hospital Name	City/Town	Occurrence Births	% of Births by Mother's Race/Ethnicity	Method of Delivery			% Low Birth Weight	% Adequate Prenatal Care	% Mothers Breast Feeding	Delivery Method of Payment					
				% Total	Cesarean					% Private	% Public Assistance	% Free & Self Paid	% Other	% Unknown	
					# Primary	# Repeat									
St. Joseph's	Lowell	631 0.7%	TOTAL	100.0	28.7	118	83	4.0	76.1	34.8	90.0	7.8	1.7	0.3	-
			White	84.8	28.7	101	58	3.0	80.0	33.4	81.0	7.3	1.5	0.2	-
			Black	1.7	..	..	..	8.1	63.8	36.4	72.7	18.2	8.1	-	-
			Hispanic	4.1	..	..	..	15.4	65.4	46.2	76.8	23.1	-	-	-
			Asian	7.8	..	..	..	8.2	42.8	38.8	83.8	4.1	2.0	-	-
			Other	1.1	..	..	..	..	..	..	..	..	..	..	..
St. Luke's	New Bedford	2,230 2.4%	TOTAL	100.0	25.5	343	225	5.7	73.2	35.3	60.8	36.1	2.3	0.6	-
			White	82.6	25.7	281	182	4.8	78.5	37.1	67.8	28.0	2.4	0.7	0.1
			Black	3.0	23.8	13	3	8.0	68.7	40.3	31.3	87.2	1.5	-	-
			Hispanic	7.3	23.5	22	16	11.7	51.8	20.4	17.8	81.5	0.3	-	-
			Asian	0.8	..	..	..	-	81.5	30.8	53.8	15.4	-	-	-
			Other	6.5	24.1	23	12	8.3	57.2	28.3	37.8	80.0	2.1	..	..
St. Margaret's	Boston	3,248 3.5%	TOTAL	100.0	28.0	582	314	15.8	67.8	40.6	61.8	35.2	2.8	0.4	0.2
			White	70.3	31.1	451	257	15.8	76.8	38.3	72.5	24.5	2.5	0.4	0.2
			Black	18.7	21.3	80	35	12.0	45.3	43.1	38.4	58.0	2.8	0.7	0.2
			Hispanic	7.8	22.1	38	16	21.3	47.4	53.8	27.7	68.0	4.0	-	0.4
			Asian	3.8	14.3	17	1	18.8	44.8	26.0	40.2	55.8	3.1	0.8	-
			Other	1.3	..	..	..	18.3	53.5	46.5	37.2	60.5	-	-	2.3
St. Vincent's	Worcester	2,406 2.6%	TOTAL	100.0	8.8	175	82	4.0	86.8	52.2	81.0	17.0	1.8	0.2	0.2
			White	81.3	8.3	135	47	3.6	90.0	54.4	87.0	11.1	1.8	0.3	0.1
			Black	2.1	..	..	..	8.8	72.5	39.2	60.8	37.3	2.0	-	-
			Hispanic	8.1	11.9	15	11	2.7	75.0	41.4	46.8	50.8	1.4	0.5	0.5
			Asian	4.8	..	..	..	7.8	68.7	47.8	32.2	66.1	0.8	-	0.8
			Other	0.6	..	..	..	7.1	71.4	42.9	35.7	64.3	-	-	4.0
Sturdy Memorial	Attleboro	876 1.0%	TOTAL	100.0	28.6	158	120	3.5	74.1	48.5	80.4	16.8	2.5	0.2	-
			White	93.2	28.1	151	114	3.5	76.3	50.1	81.5	15.8	2.3	0.2	-
			Black	0.7	..	..	..	..	..	..	..	..	..	..	..
			Hispanic	1.8	..	..	..	8.2	31.2	68.7	75.0	18.7	8.2	-	-
			Asian	3.8	..	..	..	2.7	54.1	29.7	62.2	35.1	2.7	..	..
			Other	0.6	..	..	..	..	..	..	..	..	..	-	-
Tobey	Wareham	488 0.5%	TOTAL	100.0	25.4	86	38	4.1	83.8	60.5	67.4	26.2	5.7	0.6	-
			White	90.6	24.8	75	35	3.6	84.6	61.5	70.1	23.1	6.1	0.7	-
			Black	2.0	..	..	..	-	80.0	70.0	40.0	50.0	10.0	-	-
			Hispanic	0.4	..	..	..	..	..	..	..	..	..	..	..
			Asian	1.2	..	..	..	..	..	..	..	..	..	..	..
			Other	5.7	..	..	..	14.3	71.4	35.7	39.3	60.7	-	-	-



TABLE B-10 (continued)  
HOSPITAL PROFILES  
MASSACHUSETTS OCCURRENCE BIRTHS  
1989

Hospital Name	City/Town	Occurrence Births	% of Births by Mother's Race/Ethnicity	Method of Delivery			% Low Birth Weight	% Adequate Prenatal Care	% Mothers Breast Feeding	Delivery Method of Payment				
				Cesarean						% Public Assistance	% Free & Self Paid	% Other	% Unknown	
				% Total	# Primary	# Repeat								
Waltham-Weston	Waltham	680 0.7%	TOTAL	22.8	78	77	3.4	76.9	49.6	83.2	13.5	1.9	1.3	-
			White	24.1	70	70	3.1	79.0	48.8	87.1	10.0	1.8	1.4	-
			Black	..	..	..	-	66.7	66.7	83.3	-	18.7	-	-
			Hispanic	..	..	..	5.7	60.4	39.6	48.1	50.8	-	-	-
			Asian	..	..	..	8.2	75.0	50.0	71.8	18.7	8.2	3.1	-
			Other	..	..	..	..	..	..	..	..	..	..	..
Winchester	Winchester	1,908 2.0%	TOTAL	28.8	327	218	3.2	88.4	46.0	87.5	8.8	2.1	1.7	-
			White	28.3	303	213	3.1	88.1	45.8	88.0	8.2	2.1	1.8	-
			Black	..	..	..	-	73.3	46.7	73.3	20.0	-	8.7	-
			Hispanic	..	..	..	-	87.7	32.3	58.1	32.3	3.2	8.5	-
			Asian	..	..	..	14.7	78.5	76.5	84.1	2.9	2.8	-	-
			Other	..	..	..	..	..	..	..	..	..	..	..
Worcester Hahnemann	Worcester	1,004 1.1%	TOTAL	26.8	137	132	4.5	73.9	56.8	77.3	20.3	2.1	0.3	-
			White	27.5	128	118	4.1	76.7	58.4	81.5	16.1	2.1	0.3	-
			Black	..	..	..	10.5	50.0	38.5	57.9	42.1	-	-	-
			Hispanic	..	..	..	-	47.8	42.8	31.0	68.0	-	-	-
			Asian	..	..	..	21.1	42.1	52.8	52.8	36.9	10.5	-	-
			Other	..	..	..	..	..	..	..	..	..	..	..
Worcester Memorial	Worcester	3,751 4.0%	TOTAL	25.2	608	337	11.8	87.8	50.1	75.4	22.4	2.1	-	-
			White	25.8	538	290	10.8	90.6	51.2	83.1	14.9	2.0	-	-
			Black	20.4	16	13	27.5	69.0	38.0	33.8	63.4	2.8	-	-
			Hispanic	21.6	38	29	14.2	73.2	46.5	21.0	77.1	1.9	-	-
			Asian	22.4	15	2	14.5	72.4	36.8	50.0	43.4	8.8	-	-
			Other	..	..	..	8.1	63.8	81.8	81.8	18.2	-	-	-
All other hospitals, birthing centers, at home, en route, other	Statewide	526 0.6%	TOTAL	..	..	..	..	..	..	..	..	..	..	..
			White	..	..	..	8.8	44.1	61.0	40.9	22.1	25.1	3.0	8.8
			Black	..	..	..	7.5	53.8	76.4	49.0	12.7	30.8	2.8	4.8
			Hispanic	..	..	..	32.7	19.2	17.3	28.8	55.8	7.7	7.7	-
			Asian	..	..	..	15.8	26.3	36.8	10.5	57.9	21.1	-	10.5
			Other	..	..	..	3.4	20.7	13.8	17.2	6.9	-	-	3.4
TOTAL		83,362 100.0%	TOTAL	23.0	13,448	7,965	5.9	77.8	52.2	73.2	23.0	2.8	0.8	0.2
			White	23.8	11,036	6,634	5.1	92.8	53.5	81.5	15.1	2.3	0.8	0.2
			Black	20.5	889	470	11.9	51.3	42.4	41.4	53.5	4.3	0.8	0.2
			Hispanic	20.9	963	652	7.4	59.9	52.5	29.5	64.6	5.1	0.8	0.2
			Asian	15.6	382	127	6.0	64.6	43.5	60.3	34.8	4.1	0.7	0.1
			Other	23.8	127	72	8.4	57.9	50.8	48.6	46.2	4.1	0.7	0.5
			Unknown	28.1	42	10	8.1	65.5	30.5	54.1	20.5	5.5	2.7	17.3



# MORTALITY



## SECTION C

### MORTALITY

Deaths to Massachusetts residents decreased by 4.7% from 56,407 in 1988 to 53,748 in 1989. The rate of deaths per 1,000 population also decreased from 9.6 in 1988 to 9.2 in 1989. As with live births, deaths to Massachusetts residents include all deaths to Massachusetts residents regardless of the state in which they occurred. Most data presented in this section are residence data. Occurrence data are used only with medical examiner data.

#### DEATHS BY RACE

The number of deaths by race remained relatively constant with white residents comprising 96.0% of total deaths in Massachusetts.

Race information obtained from death certificates is very different from that provided on birth certificates. On birth certificates, race is provided as part of the confidential, statistical portion of the record. As such, there is a significant problem with non-respondents. On the death certificate, however, race information (as is all information on the death certificate) is part of the legal record and must be provided by the funeral director in order to register the death. An unknown or non-response on the race item may be the result of a case in which a body is badly decomposed, rather than a refusal to provide the information.

As with birth certificate data prior to June 1986, there is a problem identifying those deaths to individuals of Hispanic ethnicity. The question asked on the 1988 death certificate was limited to a race question and, in many cases, individuals with a Hispanic ethnicity were identified using a race designation, for example, white or black, and not an ethnicity response of Hispanic. If the response was Hispanic, however, these deaths were included in the category of "white". Race information on the death certificate is provided by the informant, which in most cases is a close relative. An additional item on Hispanic origin was added to the death record on January 1, 1989.

#### DEATHS BY AGE

Persons 75 years of age or older accounted for 53.4% of deaths. The percent of deaths to residents in this age group vary widely by race and sex.

SEX	RACE	% OF DEATHS UNDER AGE 75	% OF DEATHS 75 YEARS AND OLDER
MALE	WHITE	56.6	43.4
	BLACK	80.8	19.2
	TOTAL	57.7	42.3
FEMALE	WHITE	34.6	65.4
	BLACK	64.6	35.4
	TOTAL	35.6	64.4
TOTAL	WHITE	45.2	54.8
	BLACK	73.4	26.6
	TOTAL	46.3	53.7

## DEATHS BY PLACE OF OCCURRENCE

Between 1988 and 1989, there was some variation in where deaths occurred particularly in the category of "En Route to Hospital or Dead on Arrival." The data is presented below:

SITE	% OF DEATHS 1989	% OF DEATHS 1988
HOSPITAL	67.7	62.0
AT HOME	16.2	15.7
NURSING OR REST HOME	15.2	15.5
EN ROUTE TO HOSPITAL OR DEAD ON ARRIVAL	0.1	5.6
UNKNOWN <sup>1</sup>	0.9	1.0
TOTAL	100.0 <sup>2</sup>	100.0

## DEATHS BY CAUSE

Cause of death statistics in this report are based on the Ninth Revision of the International Classification of Diseases (ICD-9). The methodology of coding cause of death from death certificates is consistent nationally, using the Automated Classification of Medical Entities (ACME), developed by the National Center for Health Statistics (NCHS). The ACME system requires every disease or condition mentioned on the record to be coded. The underlying cause is then selected by a computer program which incorporates the ICD-9 rules and conventions. Cause of death information in this report is based on underlying cause, except where otherwise noted.

Three tables (C-5, C-6, and C-7) present data based on multiple conditions rather than underlying cause data. These tables, extending the utility of mortality data, are presented to illustrate the use of multiple cause data. This is particularly true when utilizing mortality data as a method of surveillance. For example, in 1989 there were 13,587 deaths resulting from cancer as an underlying cause of death. However, an additional 2,011 deaths occurred in which cancer was not the underlying cause but included cancer as a mentioned condition, thus increasing the utilization of the mortality file as a surveillance data base for cancer.

Table C-7 demonstrates the ability of multiple cause data to enhance the function of mortality data as a morbidity tool in cases of diseases that are not traditional underlying causes of death. For example, 1,339 deaths had diabetes listed as an underlying cause, but an additional 3,071 certificates had diabetes listed as a mentioned condition, thus increasing the ability to determine the prevalence of diabetes in the population.

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<sup>1</sup>Unknown includes prison or other institutions and all other places.

<sup>2</sup>Percent does not sum to 100.0 due to rounding.

The five leading causes of death differ somewhat by race. Among white and black Massachusetts residents, heart disease, cancer, diseases of the respiratory system, and cerebrovascular disease continue to rank as the first four leading causes of death for each race. However, in 1989, pneumonia and influenza rank as the fifth leading cause of death for white Massachusetts residents, while AIDS and HIV-related diseases rank fifth among the leading causes for black residents.

CAUSE	WHITE	RANK	BLACK	RANK
HEART DISEASE	17,303 33.5%	1	437 23.6%	1
MALIGNANT NEOPLASMS (CANCER)	13,100 25.4%	2	404 21.8%	2
DISEASES OF THE RESPIRATORY SYSTEM	4,657 9.0%	3	122 6.6%	3
CEREBROVASCULAR DISEASE (STROKE)	3,309 6.4%	4	101 5.4%	4
PNEUMONIA & INFLUENZA	2,136 4.1%	5	NOT LEADING CAUSE	
AIDS AND HIV-RELATED DISEASES	NOT LEADING CAUSE		76 4.1%	5
ALL OTHER CAUSES <sup>1</sup>	11,100 21.5%	NA	712 38.4%	NA

#### ACQUIRED IMMUNE DEFICIENCY SYNDROME (AIDS)

The Ninth Revision of the International Classification of Diseases was developed before the identification of AIDS. Classification of this disease and related diseases has evolved since 1981. The deaths presented in Table C-10 were coded by using the most current schedule, which began with 1987 data. Therefore, comparison data prior to 1987 are not available.

#### DEATHS CERTIFIED BY MEDICAL EXAMINERS

The total number of deaths certified by medical examiners decreased from 9,430 in 1988 to 7,316 in 1989. Of the deaths certified by medical examiners, 65.5% were reported as a result of natural causes. The percentage of deaths due to natural causes (i.e., non-injury related causes) certified by medical examiners varies widely by county, from a high of 74.7% in Plymouth County to a low of 47.7% in Worcester County. Worcester County had the greatest number of deaths (1,208) that were referred to medical examiners, but with the certification retained by the attending physician.

<sup>1</sup>All Other Causes includes diabetes mellitus, chronic liver disease and cirrhosis, suicide, intentional and unintentional injuries, and all other causes not specifically mentioned above.

## **DEFINITIONS IMPORTANT FOR THIS SECTION INCLUDE:**

### **AGE-ADJUSTED RATE**

A procedure for adjusting rates, designed to minimize the effects of differences in age distribution when comparing rates for different populations. This procedure is accomplished by the computational process known as age standardization, whereby mortality statistics are adjusted to a reference population. For this publication, the reference population is the 1940 U.S. population, the same as used by the National Center for Health Statistics. The results of the process is a summary index that can be used to compare rates of different populations throughout the nation and over time.

### **CAUSE OF DEATH**

The underlying condition which gives rise to a series of events leading to death. The code used for identifying cause of death is the Ninth Revision of the International Classification of Diseases. The underlying cause of death is generated by a computer software program developed by the National Center for Health Statistics.

### **DEATH CERTIFICATE**

A vital record signed by a licensed physician that includes cause of death, decedent's name, sex, birth date, place of residence, and place of occurrence.

### **INTERNATIONAL CLASSIFICATION OF DISEASES, NINTH REVISION**

The International Classification of Disease (ICD) classifies mortality information for statistical purposes. The ICD was first used in 1900 and has since been revised about every 10 years. The Ninth Revision, published in 1977, is used to code mortality data beginning with 1979.

### **MISER**

The Massachusetts Institute for Social and Economic Research. This research institute, located at the University of Massachusetts in Amherst, produces the official population estimates and projections for the Commonwealth.

### **OCCURRENCE DEATH**

Occurrence deaths include all deaths that occur within the state, including deaths that occur to non-residents. An interstate exchange agreement among the 50 states, Canada, Puerto Rico, Guam, the Virgin Islands, and the District of Columbia provides for exchanges of copies of birth and death records. These records are used for statistical purposes only, and allow each state or province to track the births and deaths of its residents.

### **RACE**

For death records, race is recorded as the response of the death record informant; for example, spouse or next of kin.



## **RESIDENT DEATH**

The usual place of residence as reported by the informant. In Massachusetts, a resident is a person with a permanent address in one of the 351 cities or towns. Unless otherwise noted, all data in this publication are resident data. Resident deaths include all deaths that occur to residents of the Commonwealth, wherever they occur. An interstate exchange agreement among the 50 states, Canada, Puerto Rico, Guam, the Virgin Islands, and the District of Columbia provides for exchanges of copies of birth and death records. These records are used for statistical purposes only, and allow each state or province to track the births and deaths of its residents.

## **UNDERLYING CAUSE OF DEATH**

The underlying cause of death is: 1.) the disease or injury that initiated the series of events leading to death, or 2.) the circumstances of the unintentional or intentional injury that resulted in the death. See Death Certificate.

## **RATES IMPORTANT FOR THIS SECTION INCLUDE:**

### **AGE-SPECIFIC DEATH RATE**

$$\frac{\text{Number of Resident Deaths in Specific Age Group}}{\text{Total Population of Specific Age Group}} \times 100,000$$

### **CAUSE-SPECIFIC DEATH RATE**

$$\frac{\text{Number of Resident Deaths for a Specific Cause}}{\text{Total Population}} \times 100,000$$

### **CRUDE DEATH RATE**

$$\frac{\text{Number of Resident Deaths In A Year}}{\text{Total Population}} \times 1,000$$



FIGURE C - 1

Every day in 1989, residents of Massachusetts experienced an average of:

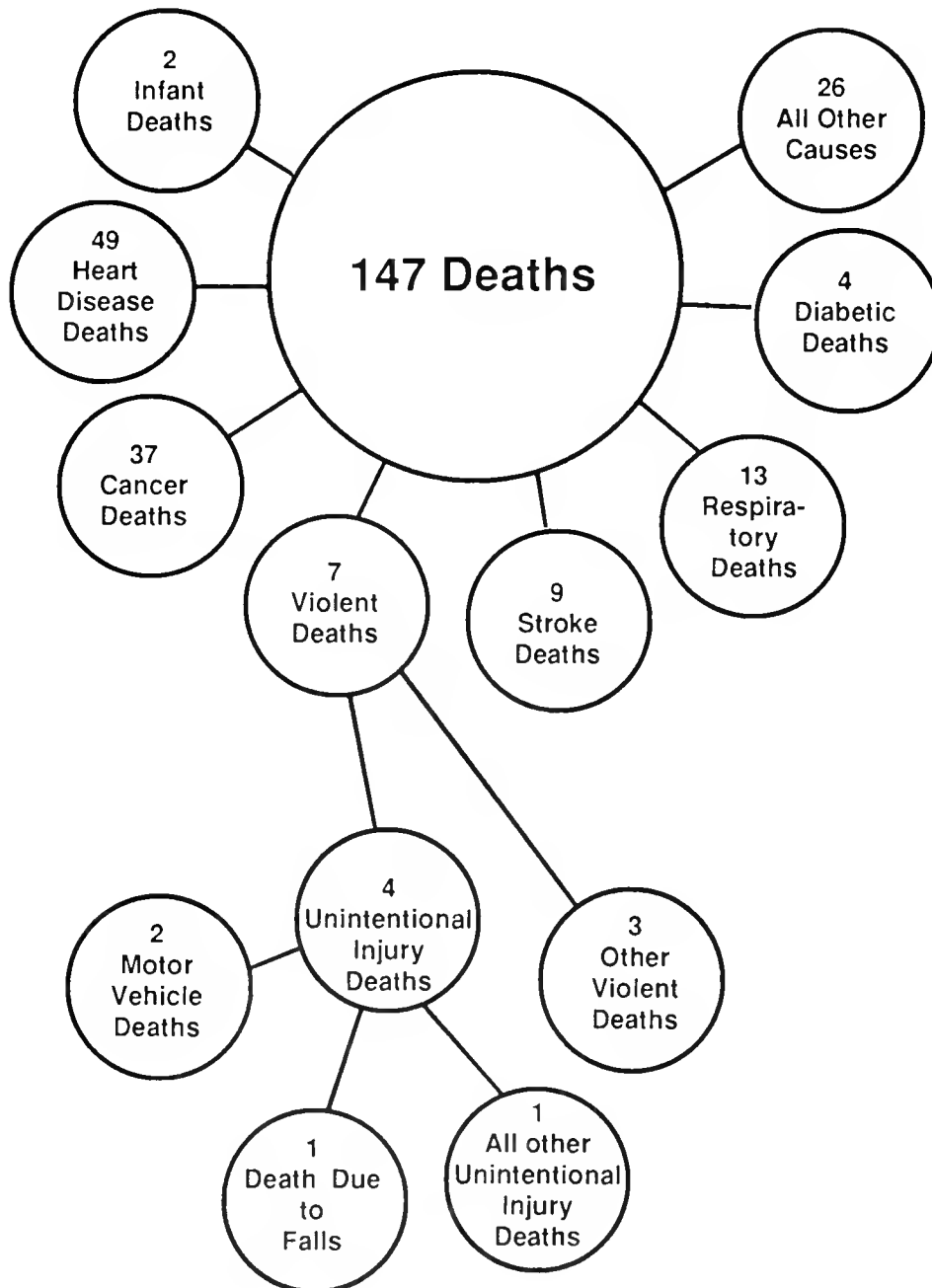
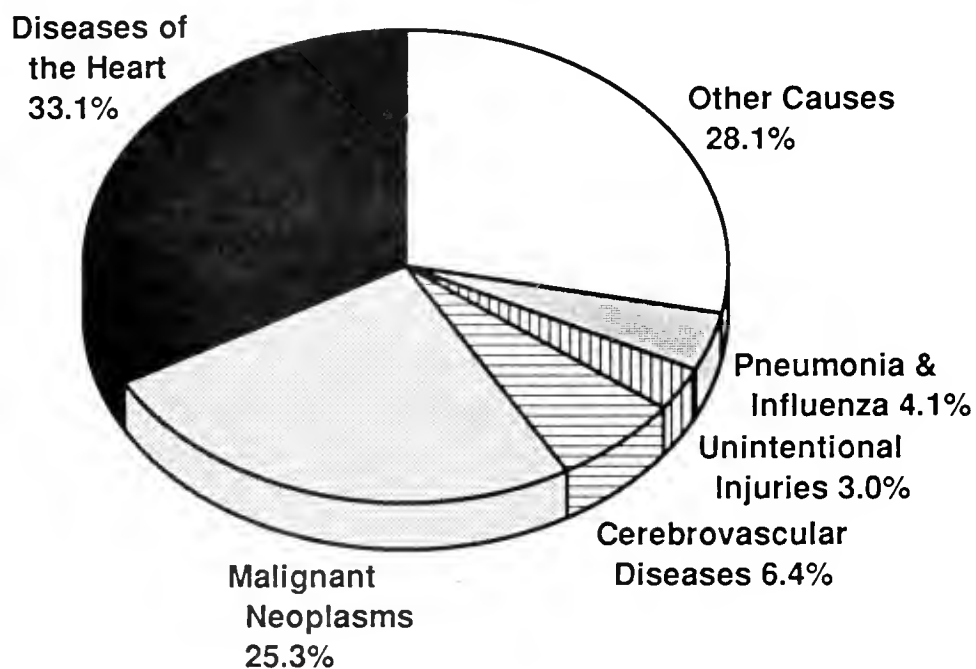


FIGURE C - 2

### Five Leading Underlying Causes of Death Massachusetts: 1989



Number of Deaths: 53,748

TABLE C-1  
TRENDS IN MORTALITY CHARACTERISTICS  
MASSACHUSETTS RESIDENTS  
1980-1989

Year		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Resident Deaths	#	54,934	52,813	52,867	54,150	55,189	55,597	55,860	55,562	56,407	53,748
Age-adjusted Death <sup>1</sup>	Rate	566.3	543.4	536.7	540.2	543.7	541.6	534.8	527.8	533.3	508.0
Race of Decedent											
White	#	53,251	51,190	51,202	52,412	53,309	53,580	53,903	53,522	54,224	51,808
	%	96.9	96.9	96.8	96.8	96.6	96.4	96.5	96.3	96.1	96.0
Black	#	1,508	1,447	1,462	1,497	1,644	1,779	1,731	1,786	1,909	1,850
	%	2.8	2.8	2.8	2.8	3.0	3.2	3.1	3.2	3.4	3.4
Other	#	141	153	168	199	188	214	211	252	254	290
	%	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.6
Unknown	#	34	23	35	42	48	24	15	2	20	--
	%	--	--	--	--	--	--	--	--	--	--
Age of Decedent <sup>2</sup>											
<1 year	#	748	710	764	682	699	746	695	608	693	697
1-4 years	#	127	120	113	121	97	112	131	96	103	106
5-19 years	#	547	541	497	478	472	466	440	404	407	370
20-44 years	#	2,680	2,594	2,423	2,546	2,628	2,734	2,900	3,041	3,243	3,183
45-64 years	#	10,504	10,303	10,141	10,087	9,947	9,691	9,150	9,052	9,051	8,532
65-74 years	#	12,411	12,193	12,373	12,393	12,750	12,790	12,638	12,530	12,593	12,153
75-84 years	#	15,506	14,775	14,673	15,132	15,435	15,515	15,984	16,091	16,003	15,439
85+ years	#	12,409	11,572	11,874	12,704	13,158	13,538	13,918	13,737	14,309	13,268

<sup>1</sup> The data are age-adjusted by the direct method using 1940 U.S. Census data.

<sup>2</sup> Column sums may not equal totals, because the age of some decedents was unknown.

**TABLE C-2**  
**FIVE LEADING UNDERLYING CAUSES OF DEATH**  
**AGE-ADJUSTED RATES<sup>1</sup>**  
**MASSACHUSETTS AND UNITED STATES**  
**1980-1989**

YEAR		UNDERLYING CAUSE OF DEATH											
		Heart Disease (390-398, 402, 404-429)		Malignant Neoplasms (140-208)		Cerebrovascular Diseases (430-438)		Pneumonia/ Influenza (480-487)		Unintentional Injuries (E800-E949)		All Causes	
		MA	U.S.	MA	U.S.	MA	U.S.	MA	U.S.	MA	U.S.	MA	U.S.
1980	Rate %	205.7 39.9	202.0 38.2	136.1 22.2	132.8 20.9	36.8 7.9	40.8 8.6	18.6 4.0	12.9 2.7	30.9 3.9	42.3 5.3	566.3	585.8
1981	Rate %	197.0 39.9	195.0 38.1	136.6 23.2	131.6 21.3	34.0 7.6	38.1 8.3	16.4 3.7	12.3 2.7	29.2 3.8	39.8 5.1	543.4	568.2
1982	Rate %	196.4 40.0	190.5 38.3	137.5 23.8	132.6 22.0	31.7 7.3	35.8 8.0	13.8 3.2	10.9 2.5	25.4 3.4	36.6 4.8	536.7	553.2
1983	Rate %	193.0 40.1	188.8 38.2	140.0 23.8	132.5 21.9	30.2 6.8	34.4 7.7	14.7 3.5	11.8 2.8	26.8 3.5	34.9 4.6	540.2	550.5
1984	Rate %	192.8 38.8	183.6 37.4	140.6 23.6	132.6 22.1	30.6 7.0	33.4 7.6	14.8 3.5	12.2 2.9	26.0 3.4	35.0 4.6	543.7	545.9
1985	Rate %	186.7 37.9	180.5 37.2	139.3 23.5	133.6 22.0	29.8 6.8	32.3 7.3	16.7 4.0	13.4 3.2	26.0 3.4	34.7 4.5	541.6	546.1
1986	Rate %	180.7 37.2	175.0 36.4	136.9 23.4	133.2 22.3	29.3 6.7	31.0 7.1	18.4 4.5	13.5 3.3	25.7 3.3	35.2 4.5	534.8	541.7
1987	Rate %	173.2 36.2	169.9 35.9	138.1 23.9	133.1 22.4	29.1 6.8	30.1 7.0	18.0 4.4	13.2 3.3	23.8 3.1	34.6 4.5	527.8	536.2
1988	Rate %	172.0 35.8	166.7 35.3	137.8 23.3	133.3 22.5	28.5 6.6	29.8 6.9	18.4 4.5	14.2 3.6	24.2 3.1	35.1 4.5	533.3	536.3
1989	Rate %	149.4 33.1	155.9 <sup>2</sup> 34.1	139.1 25.3	133.7 23.1	26.0 6.4	28.5 6.8	15.7 4.1	13.3 3.5	22.0 3.0	33.5 4.4	506.0	524.1

<sup>1</sup> Age-adjusted rates per 100,000 population in specified group.

<sup>2</sup> The U.S. data are derived from a ten percent sample of deaths. Source: "Births, Marriages, Divorces, and Deaths for 1989", Monthly Vital Statistics Report, Provisional data from the National Center for Health Statistics, U.S. Department of Health and Human Services, Vol. 38, No. 12 (April 4, 1990).

**TABLE C-3**  
**LEADING UNDERLYING CAUSES OF DEATH BY AGE**  
**MASSACHUSETTS RESIDENTS**  
**1989**

Age	Underlying Cause	ICD-9 Code	Number of Deaths
< 1 year	Certain conditions of the perinatal period	760-779	369
	Congenital anomalies	740-759	141
	Sudden infant death syndrome (SIDS)	798.0	87
1-4 years	Cancer	140-208	14
	Vehicle-related injuries, excluding motor vehicle	E800-E807,E826-E849	13
	Congenital anomalies	740-759	12
	Motor vehicle-related injuries	E810-E825	10
	Infectious & parasitic diseases, excluding AIDS, T8, polio, & syphilis	001-009,020-041,045-088,098-139	9
5-14 years	Motor vehicle-related injuries	E810-E825	29
	Vehicle-related injuries, excluding motor vehicles	E800-E807,E826-E849	27
	Cancer of the bone, skin, oral cavity, and other rare sites	140-149,170-173,190-203	14
	Congenital anomalies	740-759	10
	Diseases of the nervous system and sense organs	323-389	8
15-24 years	Motor vehicle-related injuries	E810-E825	224
	Suicide	E950-E959	84
	Homicide and legal intervention	E960-E978	73
	Vehicle-related injuries, excluding motor vehicle	E800-E807,E826-E849	59
	Cancer	140-208	55
25-44 years	Cancer	140-208	523
	Major heart diseases	390-448	329
	AIDS and HIV-related diseases	042-044	313
	Motor vehicle-related injuries	E810-E825	235
	Suicide	E950-E959	230
45-64 years	Ischemic heart disease	410-414	1,672
	Cancer of the lung and other respiratory organs	160-165	1,105
	Cancer of the stomach and digestive organs	150-159	727
	Cancer of bone, skin, oral cavity, and other rare sites	140-149,170-173,190-203	707
	Diseases of pulmonary circulation & other forms of heart disease	415-429	702
65-74 years	Ischemic heart disease	410-414	2,888
	Cancer of the lung and respiratory organs	160-165	1,265
	Cancer of the stomach and digestive organs	150-159	1,101
	Diseases of pulmonary circulation & other forms of heart disease	415-429	1,017
	Cancer of bone, skin, oral cavity and other rare sites	140-149,170-173,190-203	823
75-84 years	Ischemic heart disease	410-414	3,995
	Diseases of pulmonary circulation & other forms of heart disease	415-429	1,454
	Stroke	430-438	1,161
	Cancer of the stomach and digestive organs	150-159	1,103
	Cancer of the lung and respiratory organs	160-165	871
85 + years	Ischemic heart disease	410-414	3,574
	Diseases of pulmonary circulation & other forms of heart disease	415-429	1,627
	Stroke	430-438	1,355
	Pneumonia and influenza	480-487	1,102
	Cancer of the stomach and digestive organs	150-159	521

**TABLE C-4**  
**RESIDENT DEATHS BY AGE, SEX AND RACE**  
**MASSACHUSETTS RESIDENTS**  
**1989**

AGE	TOTAL			WHITE			BLACK			OTHER & UNKNOWN		
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE
TOTAL	53,748 <sup>1</sup>	26,076	27,672	51,605	24,885	26,720	1,852	1,028	824	291	163	128
0-4	803	460	343	642	374	268	141	76	65	20	10	10
5-9	53	31	22	46	24	22	5	5	-- <sup>2</sup>	2	2	--
10-14	70	43	27	59	35	24	7	6	1	4	2	2
15-19	247	186	61	222	166	56	23	19	4	2	1	1
20-24	405	297	108	350	254	96	42	34	8	13	9	4
25-29	471	346	125	417	305	112	50	38	12	4	3	1
30-34	619	445	174	549	407	142	62	35	27	8	3	5
35-39	767	544	223	655	476	179	105	65	40	7	3	4
40-44	921	611	310	814	538	276	93	61	32	14	12	2
45-49	1,093	692	401	996	633	363	86	53	33	11	6	5
50-54	1,400	866	534	1,297	806	491	84	52	32	19	8	11
55-59	2,258	1,402	856	2,106	1,307	799	126	77	49	26	18	8
60-64	3,781	2,294	1,487	3,618	2,200	1,418	143	83	60	20	11	9
65-69	5,386	3,107	2,279	5,167	2,980	2,187	189	114	75	30	13	17
70-74	6,767	3,704	3,063	6,545	3,573	2,972	205	123	82	17	8	9
75-79	7,742	3,880	3,862	7,565	3,796	3,769	152	65	87	25	19	6
80-84	7,697	3,282	4,415	7,541	3,209	4,332	125	55	70	31	18	13
85-89	6,676	2,254	4,422	6,554	2,213	4,341	106	36	70	16	5	11
90-94	4,372	1,156	3,216	4,299	1,126	3,173	58	21	37	15	9	6
95-99	1,834	408	1,426	1,792	397	1,395	38	8	30	4	3	1
≥ 100	383	65	318	369	64	305	11	1	10	3	--	3

<sup>1</sup> The total includes 3 male deaths of unknown age--two in the White total and one in the Black total.



**TABLE C-5  
DEATHS BY UNDERLYING CAUSE AND MENTIONED CONDITIONS  
MASSACHUSETTS RESIDENTS  
1989**

Underlying Cause	Total Deaths	Mentioned Conditions <sup>1</sup>													Ratio of Mentions to Deaths	
		1	2	3	4	5	6	7	8	9	10	11	12	13		Tot 1-13
TOTAL	53,748	18,824	4,425	41,097	6,482	1,870	5,747	4,427	3,204	1,143	768	2,292	759	46,508	137,546	2.56
1. Malignant Neoplasms (140-208)	13,587	16,813	436	2,953	333	42	937	719	500	98	1	204	2	6,962	30,000	2.21
2. Diabetes Mellitus (250)	1,339	57	1,354	1,436	241	98	97	29	50	11	0	21	0	1,066	4,460	3.33
3. Diseases of the Heart (390-398, 402, 404-429)	17,799	912	1,614	29,611	1,335	688	768	1,089	705	85	9	428	2	8,657	45,903	2.58
4. Cerebrovascular Disease (430-438)	3,430	155	294	1,019	3,712	301	341	104	253	14	5	105	0	2,284	8,587	2.50
5. Atherosclerosis (440)	542	18	30	187	0	542	34	17	13	2	0	21	0	267	1,131	2.09
6. Pneumonia & Influenza (480-487)	2,205	200	121	800	198	14	2,207	139	82	24	0	41	0	1,777	5,603	2.54
7. COPD (490-496)	1,893	137	66	980	75	26	391	1,910	114	13	0	60	0	1,556	5,328	2.81
8. Other Respiratory Disease (460-466, 470-478, 500-508, 510-519)	699	62	34	327	29	5	38	48	738	10	0	46	0	657	1,994	2.85
9. Chronic Liver Disease & Cirrhosis (571)	741	31	36	157	12	1	58	24	32	751	1	22	0	1,090	2,215	2.99
10. Motor Vehicle Injuries (E810-E825)	744	2	5	33	5	0	2	3	5	2	744	5	0	1,110	1,916	2.58
11. Other Injuries (E800-E809, E826-E949)	865	39	24	252	24	2	38	30	50	15	0	899	0	1,607	2,980	3.44
12. Suicide & Homicide (E950-E969)	751	12	0	14	0	0	4	3	2	5	0	2	753	1,016	1,811	2.41
13. All Other Causes	9,153	386	411	3,328	518	151	832	312	660	113	8	438	2	18,459	25,618	2.80

<sup>1</sup> The numbers in the Mentioned Conditions columns refer to the causes with the same numbers in the Underlying Cause column, i.e., 1 in mentioned conditions is the number of mentions of malignant neoplasms.

**TABLE C-6**  
**MALIGNANT NEOPLASM DEATHS**  
**BY UNDERLYING CAUSE AND MENTIONED CONDITIONS**  
**MASSACHUSETTS RESIDENTS**  
**1989**

Mentioned Conditions	Underlying Cause						
	Total	Digestive Organs & Peritoneum (150-159)	Respiratory & Intrathoracic Organs (160-165)	Bone, Skin, Connective Tissue & Breast (170-175)	Genito- Urinary Organs (179-189)	Lymphatic & Haemato- poietic Tissue (200-208)	All Other Malignant Neoplasms
Total Mentioned Conditions	30,000	7,682	7,750	3,338	4,534	2,731	3,965
Mean # of Mentioned Conditions Per Record	2.21	2.18	2.19	2.12	2.23	2.30	2.31
Deaths	13,587	3,530	3,544	1,577	2,034	1,188	1,714
1. Malignant Neoplasms (140-208)	16,813	4,396	4,298	2,072	2,563	1,282	2,202
2. Diabetes Mellitus (250)	436	140	93	48	65	30	60
3. Heart Disease (390-398, 402, 404-429)	2,953	713	764	285	494	292	405
4. Cerebrovascular Disease (430-438)	333	66	78	30	63	48	48
5. Atherosclerosis (440)	42	11	11	3	8	5	4
6. Pneumonia/Influenza (480-487)	937	161	339	69	106	135	127
7. COPD (490-496)	719	86	426	30	65	30	82
8. Other Respiratory Disease (460-466, 470-478, 500-508, 510-519)	500	105	150	66	50	43	86
9. Chronic Liver Disease & Cirrhosis (571)	98	45	20	4	8	6	15
10. Unintentional Injuries (E800-E949)	207	48	52	23	35	20	29
11. All Other Causes	6,962	1,911	1,519	708	1,077	840	907

**TABLE C-7**  
**ATHEROSCLEROSIS, HYPERTENSIVE DISEASE AND DIABETES**  
**UNDERLYING CAUSE AND MENTIONED CONDITIONS BY AGE GROUP AND SEX**  
**MASSACHUSETTS RESIDENT DEATHS**  
**1989**

Age	Sex	# of Deaths	Atherosclerosis (440)			Hypertensive Disease (401-405)			Diabetes Mellitus (250)		
			Under-lying Cause	Mentioned Conditions	Total % of Deaths	Under-lying Cause	Mentioned Conditions	Total % of Deaths	Under-lying Cause	Mentioned Conditions	Total % of Deaths
	TOTAL <sup>1</sup>	53,748	542	1,328	<u>1,870</u> 3.5	625	2,851	<u>3,476</u> 6.5	1,339	3,071	<u>4,410</u> 8.2
	MALE	26,076	204	569	<u>773</u> 3.0	254	1,164	<u>1,418</u> 5.4	597	1,417	<u>2,014</u> 7.7
	FEMALE	27,672	338	759	<u>1,097</u> 4.0	371	1,687	<u>2,058</u> 7.4	742	1,654	<u>2,396</u> 8.7
0-39	Total	3,435	-- <sup>2</sup>	1	<u>1</u> 0.3	7	10	<u>17</u> 0.5	27	27	<u>54</u> 1.6
	Male	2,352	--	1	<u>1</u> 0.0	4	7	<u>11</u> 0.5	16	16	<u>32</u> 1.4
	Female	1,083	--	--	-- 0.0	3	3	<u>6</u> 0.6	11	11	<u>22</u> 2.0
40-49	Total	2,014	3	11	<u>14</u> 0.7	25	58	<u>83</u> 4.1	52	56	<u>108</u> 5.4
	Male	1,303	2	11	<u>13</u> 1.0	19	48	<u>67</u> 5.1	31	34	<u>65</u> 5.0
	Female	711	1	--	<u>1</u> 0.1	6	10	<u>16</u> 2.2	21	22	<u>43</u> 6.0
50-59	Total	3,658	14	37	<u>51</u> 1.4	45	161	<u>206</u> 5.6	83	189	<u>272</u> 7.4
	Male	2,268	11	27	<u>38</u> 1.7	30	110	<u>140</u> 6.2	55	112	<u>167</u> 7.4
	Female	1,390	3	10	<u>13</u> 0.9	15	51	<u>66</u> 4.7	28	77	<u>105</u> 7.5
60-69	Total	9,167	47	157	<u>204</u> 2.2	97	515	<u>612</u> 6.7	288	630	<u>918</u> 10.0
	Male	5,401	31	109	<u>140</u> 2.6	55	286	<u>341</u> 6.3	158	355	<u>513</u> 9.5
	Female	3,766	16	48	<u>64</u> 1.7	42	229	<u>271</u> 7.2	130	275	<u>405</u> 10.8
70-79	Total	14,509	110	326	<u>436</u> 3.0	158	896	<u>1,054</u> 7.3	418	1,088	<u>1,506</u> 10.4
	Male	7,584	49	191	<u>240</u> 3.2	68	409	<u>477</u> 6.3	204	544	<u>748</u> 9.9
	Female	6,925	61	135	<u>196</u> 2.8	90	487	<u>577</u> 8.3	214	544	<u>758</u> 10.9
≥ 80	Total	20,962	368	796	<u>1,164</u> 5.5	293	1,211	<u>1,504</u> 7.2	471	1,081	<u>1,552</u> 7.4
	Male	7,165	111	230	<u>341</u> 4.8	78	304	<u>382</u> 5.3	133	356	<u>489</u> 6.8
	Female	13,797	257	566	<u>823</u> 6.0	215	907	<u>1,122</u> 8.1	338	725	<u>1,063</u> 7.7

<sup>1</sup> Total includes 3 male deaths of unknown age.

<sup>2</sup> --Indicates zero events.

<sup>3</sup> \* \*Indicates percentage less than 0.1.

**TABLE C-8**  
**SUICIDES BY CAUSE, SEX AND AGE**  
**MASSACHUSETTS RESIDENTS**  
**1989**

UNDERLYING CAUSE	ICD-9 Code		TOTAL	Age								
				10-14	15-19	20-29	30-39	40-49	50-59	60-69	70-79	≥80
All Suicides	E950-E958	M	416	1	19	111	84	66	45	40	33	17
		F	107	0	6	14	27	20	14	14	4	8
		T	523	1	25	125	111	86	59	54	37	25
		%	100.0 <sup>1</sup>	100.0	100.0	100.0	100.0 <sup>1</sup>	100.0	100.0	100.0	100.0 <sup>1</sup>	100.0
Poisoning by solid or liquid substances	E950	M	39	-- <sup>2</sup>	--	13	12	8	1	1	3	1
		F	42	--	1	4	15	11	6	2	2	1
		T	81	--	1	17	27	19	7	3	5	2
		%	15.5	--	4.0	13.6	24.3	22.1	11.9	5.6	13.5	8.0
Poisoning by gases in domestic use	E951	M	2	--	--	--	--	1	1	--	--	--
		F	--	--	--	--	--	--	--	--	--	--
		T	2	--	--	--	--	1	1	--	--	--
		%	0.4	--	--	--	--	1.2	1.7	--	--	--
Poisoning by gases & vapors (not domestic gas)	E952	M	36	--	2	5	1	9	7	5	6	1
		F	11	--	--	1	3	2	1	4	--	--
		T	47	--	2	6	4	11	8	9	6	1
		%	9.0	--	8.0	4.8	3.6	12.8	13.6	16.7	16.2	4.0
Hanging, Strangulation and Suffocation	E953	M	141	1	11	44	28	19	9	14	7	8
		F	31	--	5	4	5	4	3	5	2	3
		T	172	1	16	48	33	23	12	19	9	11
		%	32.9	100.0	64.0	38.4	29.7	26.7	20.3	35.2	24.3	44.0
Submersion (Drowning)	E954	M	8	--	--	2	2	2	--	1	--	1
		F	3	--	--	1	--	--	1	--	--	1
		T	11	--	--	3	2	2	1	1	--	2
		%	2.1	--	--	2.4	1.8	2.3	1.7	1.8	--	8.0
Firearms and Explosives	E955	M	165	--	6	38	36	23	25	15	17	5
		F	11	--	--	3	2	2	3	1	--	--
		T	176	--	6	41	38	25	28	16	17	5
		%	33.6	--	24.0	32.8	34.2	29.1	47.4	29.6	45.9	20.0
Cutting and Piercing Instruments	E956	M	5	--	--	1	--	1	1	2	--	--
		F	1	--	--	--	--	--	--	--	--	1
		T	6	--	--	1	--	1	1	2	--	1
		%	1.1	--	--	0.8	--	1.2	1.7	3.7	--	4.0
Jumping from high places	E957	M	10	--	--	4	2	2	1	--	--	1
		F	7	--	--	1	2	--	--	2	--	2
		T	17	--	--	5	4	2	1	2	--	3
		%	3.2	--	--	4.0	3.6	2.3	1.7	3.7	--	12.0
Other and Unspecified Means	E958	M	10	--	--	4	3	1	--	2	--	--
		F	1	--	--	--	--	1	--	--	--	--
		T	11	--	--	4	3	2	--	2	--	--
		%	2.1	--	--	3.2	2.7	2.3	--	3.7	--	--

<sup>1</sup> Percents do not sum to 100.0 due to rounding.

<sup>2</sup> --Indicates zero events.

**TABLE C-9**  
**MOTOR VEHICLE DEATHS BY TYPE**  
**MASSACHUSETTS RESIDENTS**  
**1989**

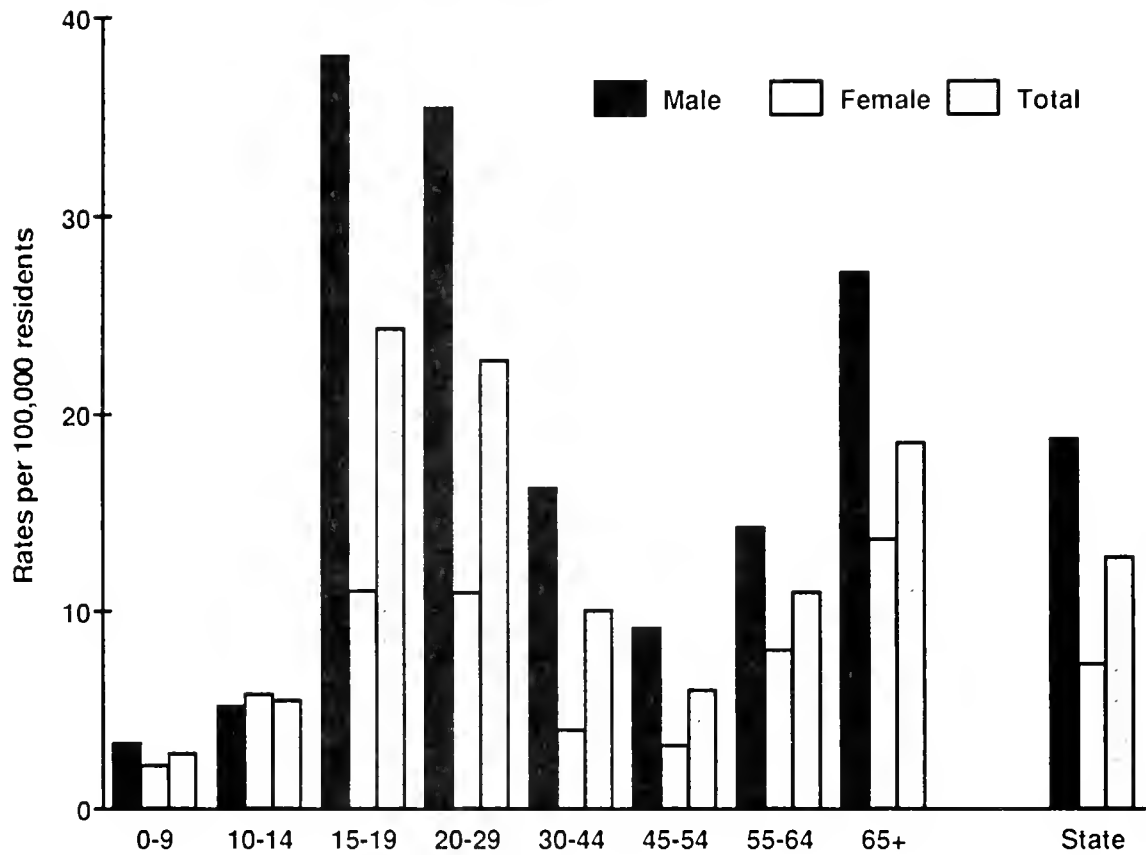
UNDERLYING CAUSE	ICD-9 Code		TOTAL	Victim						
				Driver	Passenger	Motor-cyclist	Passenger, Motorcycle	Pedestrian	Pedal Cyclist	Other & Unspec.
All Motor Vehicle Deaths	E810-E825	M F T %	515 229 744 100.0	241 78 319 100.0 <sup>1</sup>	78 72 148 100.0	53 2 53 100.0	2 3 5 100.0	84 58 153 100.0	11 1 12 100.0	38 16 54 100.0
Collision with train	E810	M F T %	2 2 4 0.5	2 -- 2 0.6	-- 2 2 1.3	-- -- -- --	-- -- -- --	-- -- -- --	-- -- -- --	-- -- -- --
Collision with another motor vehicle	E812	M F T %	153 92 245 32.8	82 47 139 43.8	26 44 70 47.3	27 -- 27 50.9	2 1 3 60.0	-- -- -- --	-- -- -- --	6 -- 6 11.1
Collision with another vehicle	E813	M F T %	11 1 12 1.6	-- -- -- --	-- -- -- --	-- -- -- --	-- -- -- --	-- -- -- --	11 1 12 100.0	-- -- -- --
Motor vehicle with pedestrian	E814	M F T %	95 59 154 20.7	-- -- -- --	1 -- 1 0.7	-- -- -- --	-- -- -- --	84 59 153 100.0	-- -- -- --	-- -- -- --
Other motor vehicle collision on the highway	E815	M F T %	177 47 224 30.1	114 26 140 43.8	38 14 52 35.1	19 -- 19 35.8	-- 1 1 20.0	-- -- -- --	-- -- -- --	6 6 12 22.2
Lost control without collision on the highway	E816	M F T %	42 15 57 7.7	29 4 33 10.3	6 8 14 9.5	4 -- 4 7.5	-- 1 1 20.0	-- -- -- --	-- -- -- --	3 2 5 9.3
Other non-collision motor vehicle	E818	M F T %	10 4 14 1.8	-- -- -- --	2 2 4 2.7	3 -- 3 5.7	-- -- -- --	-- -- -- --	-- -- -- --	5 2 7 13.0
Motor vehicle of unspecified nature	E819	M F T %	17 9 25 3.4	1 1 2 0.8	2 2 4 2.7	-- -- -- --	-- -- -- --	-- -- -- --	-- -- -- --	14 5 19 35.2
Other off-road motor vehicle	E821	M F T %	4 1 5 0.7	1 -- 1 0.3	-- -- -- --	-- -- -- --	-- -- -- --	-- -- -- --	-- -- -- --	3 1 4 7.4
Other involving collision with stationary object	E823	M F T %	1 -- 1 0.1	-- -- -- --	1 -- 1 0.7	-- -- -- --	-- -- -- --	-- -- -- --	-- -- -- --	-- -- -- --
Other motor vehicle non-traffic of other & unspecified nature	E825	M F T %	3 -- 3 0.4	2 -- 2 0.6	-- -- -- --	-- -- -- --	-- -- -- --	-- -- -- --	-- -- -- --	1 -- 1 1.8

<sup>1</sup> Percents may not sum to 100.0 due to rounding.

<sup>2</sup> --Indicates zero events.

Figure C-3

**Motor Vehicle Deaths**  
**Age-specific Rates**  
**Massachusetts: 1989**



Male	3.3	5.2	38.0	35.4	16.2	9.1	14.2	27.1		18.7
Female	2.2	5.8	11.0	10.9	4.0	3.2	8.0	13.6		7.3
Total	2.8	5.5	24.3	22.7	10.0	6.0	10.9	18.5		12.7

**TABLE C-10A**  
**AIDS<sup>1</sup> AND HIV-RELATED<sup>2</sup> DEATHS BY CAUSE AND PLACE OF OCCURRENCE**  
**MASSACHUSETTS RESIDENT DEATHS**  
**1987-1989**

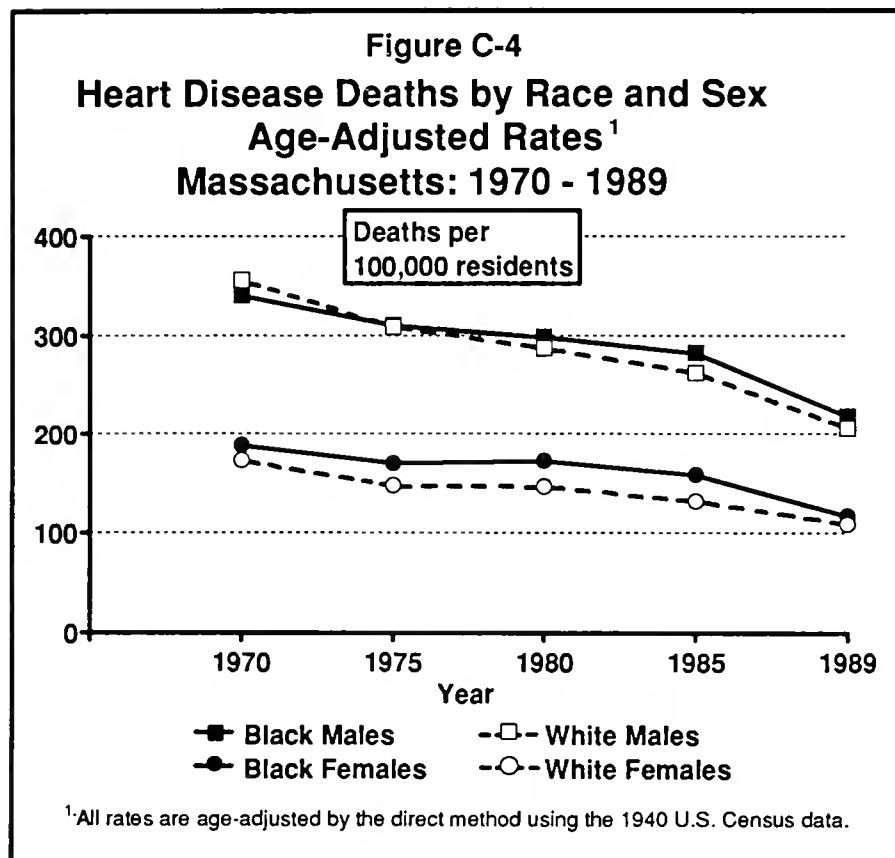
		AIDS and AIDS- related Deaths	Conditions (ICD-9 Codes)			Place of Occurrence			
		TOTAL	AIDS (042)	AIDS-like syndrome (043)	Other HIV infection (044)	At Home	Hospital	Out of State	Other
1987	# %	241 100.0	233 96.7	3 1.2	5 2.1	26 10.8	207 85.9	5 2.1	3 1.2
1988	# %	315 100.0	303 96.2	3 0.9	9 2.9	67 21.3	234 74.3	7 2.2	7 2.2
1989	# %	404 100.0	382 94.6	1 0.2	21 5.2	79 19.6	313 77.5	7 1.7	5 1.2

**TABLE C-10B**  
**AIDS AND HIV-RELATED DEATHS BY SEX, RACE AND AGE**  
**MASSACHUSETTS RESIDENT DEATHS**  
**1987-1989**

		AIDS and AIDS- related Deaths						Age (in years)				
		TOTAL	Sex		Race			< 14	14-24	25-34	35-44	45 +
			Male	Female	White	Black	Other					
1987	#	241	209	32	190	50	1	5	8	105	78	45
	%	100.0	86.7	13.3	78.8	20.8	0.4	2.1	3.3	43.6	32.3	18.7
1988	#	315	281	34	251	64	0	5	12	111	127	60
	%	100.0	89.2	10.8	79.7	20.3	0.0	1.6	3.8	35.2	40.3	19.1
1989	#	404	359	45	327	76	1	3	16	146	167	72
	%	100.0	88.9	11.1	81.0	18.8	0.2	0.8	4.0	36.1	41.3	17.8

<sup>1</sup>Acquired Immune Deficiency Syndrome.

<sup>2</sup>Human Immunodeficiency Virus.





**TABLE C-11**  
**MALIGNANT NEOPLASM DEATHS**  
**AGE-ADJUSTED RATES**  
**MASSACHUSETTS RESIDENT DEATHS**  
**1989**

Underlying Cause	ICD-9 Codes	Total		Male		Female	
		Number	Rate	Number	Rate	Number	Rate
<b>Total Deaths</b>		53,748	506.0	26,076	670.3	27,672	387.0
<b>Total Cancer Deaths</b>	140-208	13,587	139.1	6,824	176.2	6,763	115.9
Esophagus	150	282	3.0	204	5.6	78	1.3
Stomach	151	436	4.2	252	6.5	184	2.6
Colon, rectum, rectosigmoid junction and anus	153-154	1,699	15.6	848	21.1	851	11.8
Pancreas	157	692	6.8	323	8.5	369	5.4
Trachea, bronchus and lung	162	3,420	37.1	2,072	54.9	1,348	25.2
Female breast	174	1,214	23.4	--	--	1,214	23.4
Ovary and other uterine adnaxa	183	337	6.4	--	--	337	6.4
Prostate	185	777	16.8	777	16.8	--	--
Brain	191	248	3.2	131	4.1	117	2.4
Lymphosarcoma and reticulosarcoma, Hodgkin's disease and other cancers of lymphoid and histiocytic tissue	200-202	521	5.3	235	6.4	286	4.5
All other cancers	Residual	3,696	40.6	1,982	52.3	1,979	32.7

1 All rates are age-adjusted by the direct method using the 1940 U.S. Census data. Rates are per 100,000 population.

**TABLE C-12**  
**MEDICAL EXAMINER CERTIFIED DEATHS**  
**BY CAUSE, RACE, SEX AND AGE**  
**MASSACHUSETTS OCCURRENCE**  
**1989**

AGE	RACE/SEX	Total Deaths Certified by M.E.	Motor Vehicle Injuries (E810-E825)	Suicide (E950-E958)	Homicide (E960-E969)	Legal Intervention/Undeter. Inj. (E970-E999)	All Other Injuries (E800-E907, E825-E949)	Non-violent Causes (I000-778)	Ill-Defined & Unknown Causes (780-796)
TOTAL <sup>1</sup>	White M	4,387	464	390	80	150	350	2,738	185
	F	2,417	205	99	52	33	137	1,779	112
	Black M	336	18	15	62	22	33	167	19
	F	136	8	3	10	11	7	85	12
	Other M	41	10	3	3	2	5	17	3
	F	19	2	2	6	—	1	6	2
	Total	7,316	707	512	223	216	533	4,782	333
< 1	White M	71	—	—	1	—	2	12	58
	F	43	1	—	—	—	—	7	35
	Black M	17	2	—	1	—	2	5	7
	F	10	—	—	—	—	—	4	6
	Other M	1	—	—	—	—	—	—	1
	F	3	—	—	1	—	—	—	2
	Total	145	3	—	3	—	4	28	107
1-4	White M	25	7	—	2	—	8	7	1
	F	22	3	—	3	—	5	7	4
	Black M	3	—	—	2	—	1	—	—
	F	1	—	—	—	—	—	1	—
	Other M	1	1	—	—	—	—	—	—
	F	1	—	—	—	—	1	—	—
	Total	53	11	—	7	—	15	15	5
5-9	White M	15	4	—	—	—	6	4	1
	F	12	4	—	—	—	5	2	1
	Black M	5	1	—	—	—	4	—	—
	F	—	—	—	—	—	—	—	—
	Other M	2	1	—	—	—	—	1	—
	F	—	—	—	—	—	—	—	—
	Total	34	10	—	—	—	15	7	2
10-14	White M	19	6	1	3	—	6	2	1
	F	17	8	—	—	—	3	5	1
	Black M	3	1	—	—	—	1	1	—
	F	1	1	—	—	—	—	—	—
	Other M	2	—	—	—	—	2	—	—
	F	—	—	—	—	—	—	—	—
	Total	42	16	1	3	—	12	8	2
15-19	White M	140	77	18	9	5	23	4	5
	F	41	19	7	9	1	—	3	2
	Black M	18	1	—	12	2	2	1	—
	F	3	2	—	—	—	—	1	—
	Other M	1	—	1	—	—	—	—	—
	F	1	—	—	1	—	—	—	—
	Total	204	99	26	30	9	25	9	7
20-29	White M	417	149	101	24	37	52	30	24
	F	118	54	12	16	8	4	15	11
	Black M	86	8	7	30	5	5	7	4
	F	11	1	—	2	4	1	1	2
	Other M	10	6	1	2	—	1	—	—
	F	2	1	1	—	—	—	—	—
	Total	624	219	122	74	52	63	53	41
30-39	White M	474	73	78	23	65	60	124	51
	F	113	17	24	9	12	10	27	14
	Black M	54	3	2	9	8	5	23	4
	F	25	3	2	4	6	1	8	1
	Other M	4	1	1	1	—	1	—	—
	F	3	—	—	3	—	—	—	—
	Total	673	97	107	48	91	77	182	70

<sup>1</sup> Total includes one white male of unknown age and one black male of unknown age.

<sup>2</sup>—Indicates zero events.

**TABLE C-12 (continued)**  
**MEDICAL EXAMINER CERTIFIED DEATHS**  
**BY CAUSE, RACE, SEX AND AGE**  
**MASSACHUSETTS OCCURRENCE**  
**1989**

AGE	RACE/SEX	Total Deaths Certified by M.E.	Motor Vehicle Injuries (E810-E825)	Suicide (E950-E959)	Homicide (E860-E869)	Legal Intervention/ Undeter. Inj. (E870-E899)	All Other Injuries (E800-E807, E825-E849)	Non-violent Causes (000-779)	Ill-Defined & Unknown Causes (780-796)
40-44	White M	283	27	40	7	25	28	121	15
	F	59	5	11	5	—	8	22	10
	Black M	21	—	1	3	4	4	8	3
	F	9	—	1	—	—	—	7	1
	Other M	3	—	—	—	—	1	1	1
	F	1	1	—	—	—	—	—	—
	Total	358	33	53	15	29	38	157	30
45-49	White M	253	8	28	8	5	24	174	10
	F	90	7	8	1	2	5	60	7
	Black M	20	1	1	1	2	2	13	—
	F	12	—	—	2	1	—	7	2
	Other M	2	1	—	—	—	—	1	—
	F	—	—	—	—	—	—	—	—
	Total	377	17	35	10	10	31	255	18
50-54	White M	248	13	30	4	4	12	178	7
	F	75	2	4	2	1	4	55	7
	Black M	17	—	1	1	1	—	14	—
	F	7	—	—	1	—	—	8	—
	Other M	3	—	—	—	—	—	3	—
	F	2	—	1	—	—	—	1	—
	Total	352	15	38	8	8	18	257	14
55-59	White M	300	12	11	3	—	21	250	3
	F	128	8	8	—	4	5	96	4
	Black M	20	—	1	—	—	—	18	—
	F	8	—	—	1	—	1	8	—
	Other M	3	—	—	—	—	—	2	1
	F	1	—	—	1	—	—	—	—
	Total	458	21	20	5	4	27	373	8
60-64	White M	417	18	19	4	1	20	352	3
	F	164	11	7	1	4	8	130	2
	Black M	15	1	—	1	—	—	12	1
	F	7	—	—	—	—	—	7	—
	Other M	1	—	—	—	—	—	1	—
	F	1	—	—	—	—	—	1	—
	Total	605	30	28	6	5	28	503	8
65-69	White M	429	11	17	1	1	14	382	3
	F	211	13	7	2	2	8	176	2
	Black M	31	—	2	—	—	3	28	—
	F	12	—	—	—	—	—	12	—
	Other M	2	—	—	—	—	—	2	—
	F	2	—	—	—	—	—	2	—
	Total	687	24	28	3	3	28	600	5
70-74	White M	422	15	28	1	3	18	353	3
	F	289	15	1	1	—	11	238	3
	Black M	18	—	—	1	—	—	18	—
	F	8	1	—	—	—	1	7	—
	Other M	—	—	—	—	—	—	—	—
	F	2	—	—	—	—	—	2	—
	Total	721	31	29	3	3	31	618	8
75-79	White M	360	18	4	2	2	21	314	1
	F	322	9	2	1	—	13	295	2
	Black M	11	—	—	—	—	1	10	—
	F	8	—	—	—	—	2	7	—
	Other M	2	—	—	—	—	—	2	—
	F	—	—	—	—	—	—	—	—
	Total	704	25	8	3	2	37	628	3
≥ 80	White M	513	28	17	1	2	34	430	1
	F	735	28	8	2	1	46	641	7
	Black M	15	—	—	—	—	3	12	—
	F	12	—	—	—	—	1	11	—
	Other M	4	—	—	—	—	—	4	—
	F	—	—	—	—	—	—	—	—
	Total	1,278	58	25	3	3	88	1,088	8

FIGURE C - 5

**Malignant Neoplasm Deaths by Race and Sex**  
**Age-adjusted Rates**  
**Massachusetts: 1970 - 1989**

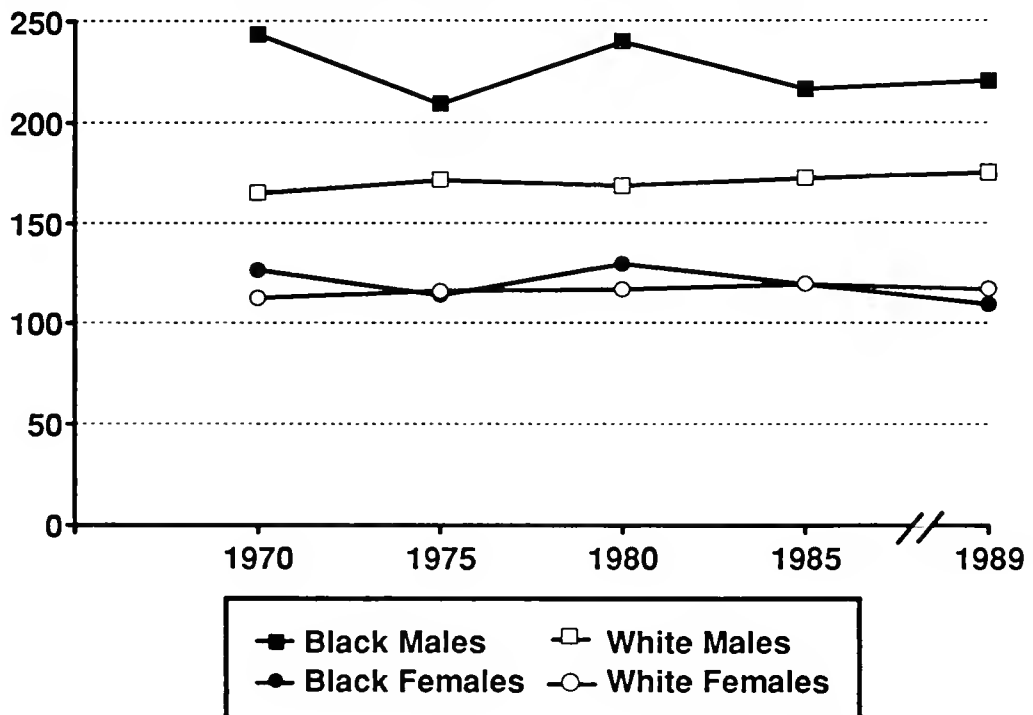
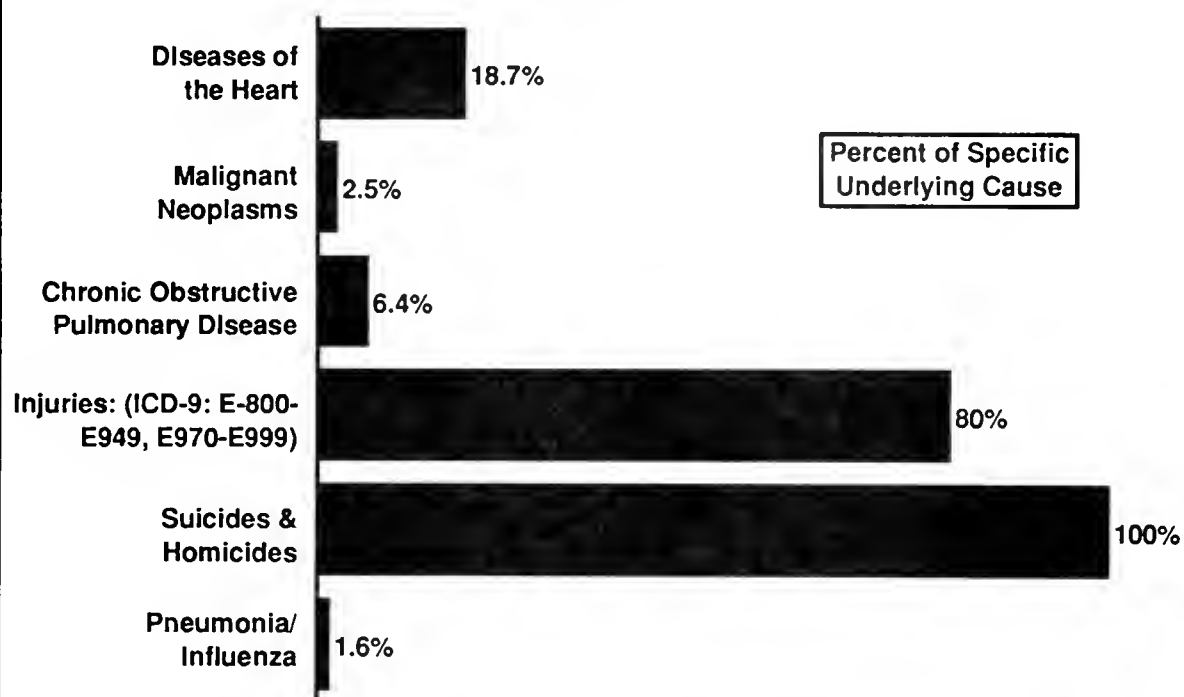


Figure C-6

## Proportion of Deaths Certified by Medical Examiner for Specific Causes of Death

Occurrence Deaths  
Massachusetts: 1989



**TABLE C-13**  
**MEDICAL EXAMINER CERTIFIED DEATHS BY COUNTY**  
**MASSACHUSETTS OCCURRENCE**  
**1989**

County		Population	Occurrence Deaths	M.E. Certified <sup>1</sup>	Referred--Not Certified By M.E. <sup>1</sup>	Natural Cause Deaths Certified by M.E. <sup>2</sup>
<b>TOTAL</b>	# % R	5,875,923 100.0 --	54,520 100.0 --	7,316 13.4 --	7,674 14.1 --	4,792 65.5 --
Barnstable	# % R	181,117 3.1 9	2,034 3.7 9	389 19.1 3	161 7.9 11	285 73.3 3
Berkshire	# % R	140,706 2.4 11	1,680 3.1 10	188 11.2 11	267 15.9 4	109 58.0 11
Bristol	# % R	492,530 8.4 6	4,136 7.6 7	651 15.7 5	480 11.6 9	441 67.7 5
Dukes	# % R	11,690 0.2 13	110 0.2 13	26 23.6 1	3 2.7 13	17 65.4 7
Essex	# % R	647,228 11.0 4	5,858 10.7 4	976 16.7 4	357 6.1 12	728 74.6 2
Franklin	# % R	66,913 1.1 12	646 1.2 12	87 13.5 7	74 11.5 10	63 72.4 4
Hampden	# % R	440,955 7.5 8	4,772 8.8 5	546 11.4 9	792 16.6 3	340 62.3 10
Hampshire	# % R	147,475 2.5 10	869 1.6 11	115 13.2 8	130 15.0 5	75 65.2 8
Middlesex	# % R	1,366,294 23.2 1	10,611 19.5 1	1,498 14.1 6	1,445 13.6 7	1,085 72.4 4
Nantucket	# % R	6,248 0.1 14	71 0.1 14	8 11.3 10	1 1.4 14	5 62.5 9
Norfolk	# % R	603,637 10.3 5	4,487 8.2 6	499 11.1 12	656 14.6 6	336 67.3 6
Plymouth	# % R	445,004 7.6 7	3,003 5.5 8	616 20.5 2	385 12.8 8	460 74.7 1
Suffolk	# % R	661,684 11.3 3	9,763 17.9 2	1,073 11.0 13	1,715 17.6 2	541 50.4 12
Worcester	# % R	664,442 11.3 2	6,480 11.9 3	644 9.9 14	1,208 18.6 1	307 47.7 13

<sup>1</sup> The percentage and rank in the Medical Examiner Certified Deaths and the Referred--Not Certified by Medical Examiner columns are based on the totals in the Occurrence Deaths column.

<sup>2</sup> The percentages and ranks of natural cause deaths certified by medical examiners are based on the total number of medical examiner certified deaths for each county.



TABLE C-14A  
SELECTED CAUSES OF DEATH BY CITY AND TOWN OF RESIDENCE  
1989

	HEART DISEASES (390-398, 402, 404-429)	MALIGNANT NEOPLASMS (140-209)	CEREBROVASCULAR DISEASE (430-438)	MOTOR VEHICLE ACCIDENTS(810-825)	OTHER ACCIDENTS (800-807,826-949)	INFLUENZA & PNEUMONIA (480-487)	CHRONIC OBSTRUCTIVE PULMONARY (490-496)	DIABETES MELLITUS (250)	CHRONIC LIVER DIS. & CIRRHOSIS (571)	ATHEROSCLEROSIS (440)	SUICIDE (950-959)	ALL OTHER CAUSES	TOTAL
ABINGTON	44	33	17	0	1	8	4	0	1	1	2	16	127
ACTION	25	19	14	5	3	2	3	2	3	1	1	18	96
ACUSHNET	17	17	5	0	3	4	1	1	3	6	2	11	70
ADAMS	46	33	11	1	1	5	5	7	2	1	3	26	141
AGAWAM	93	53	17	2	3	8	5	8	4	3	1	42	239
ALFORD	1	0	0	1	0	1	0	0	0	0	1	0	4
AMESBURY	49	24	8	0	4	5	8	4	2	3	1	27	135
AMHERST	31	20	6	1	3	7	4	3	2	0	1	27	105
ANDOVER	70	57	13	2	3	5	7	1	5	1	1	33	198
ARLINGTON	170	128	30	5	8	20	16	15	5	1	5	101	504
ASHBURNHAM	7	12	4	0	0	0	2	0	0	0	0	3	28
ASHBY	5	4	0	1	0	0	1	0	0	0	0	3	14
ASHFIELD	10	3	0	1	0	0	0	0	0	0	0	3	17
ASHLAND	31	21	5	0	0	2	1	1	0	0	0	11	72
ATHOL	45	28	4	3	2	7	5	2	0	1	2	25	124
ATTLEBORO	91	91	26	8	2	8	13	8	10	1	5	60	323
AUBURN	45	35	11	3	2	6	4	2	3	0	0	30	141
AVON	13	8	5	0	1	3	4	0	1	1	0	1	37
AYER	13	12	3	1	0	1	1	0	0	2	0	12	45
BARNSTABLE	121	157	44	5	11	20	17	15	4	12	2	100	508
BARRE	10	7	2	1	3	3	2	0	1	0	0	9	38
BECKET	2	3	0	1	1	1	1	0	0	0	0	2	11
BEDFORD	35	30	4	2	3	5	6	1	0	1	1	20	108
BELCHERTOWN	15	17	4	6	0	2	0	3	1	0	0	14	62
BELLINGHAM	27	21	7	0	2	0	3	4	3	0	3	16	86
BELMONT	77	55	16	2	3	21	3	9	2	2	2	46	238
BERKLEY	3	5	0	0	0	1	1	1	0	1	0	0	12
BERLIN	7	2	2	0	0	0	2	0	1	0	0	3	17
BERNARDSTON	3	6	0	0	0	1	2	0	0	0	0	3	15
BEVERLY	137	74	27	9	2	22	13	11	5	0	6	82	388
BILLERICA	76	67	13	9	3	4	12	9	3	2	4	32	234
BLACKSTONE	23	12	5	1	1	2	1	0	0	0	1	7	53
BLANDFORD	2	4	0	0	0	0	0	1	0	0	0	1	8
BOLTON	0	3	1	2	1	2	1	0	0	0	0	2	12
BOSTON	1550	1239	278	55	101	240	159	122	99	21	59	1391	5314
BOURNE	39	40	12	2	1	8	5	4	4	4	3	19	141
BOXBOROUGH	3	2	0	0	0	1	0	0	0	0	0	2	8
BOXFORD	5	10	4	0	0	1	1	0	1	0	0	3	25
BOYLSTON	2	12	3	0	0	1	0	0	1	0	0	5	24
BRAINTREE	132	104	31	5	7	15	21	5	6	2	1	62	391



BREWSTER	25	31	3	4	1	5	2	2	0	3	1	14	91
BRIDGEWATER	38	36	4	4	0	5	4	1	1	0	2	21	116
BRIMFIELD	3	4	0	0	0	0	2	1	0	0	0	6	16
BROCKTON	310	201	52	12	22	38	31	12	17	4	11	159	869
BROOKFIELD	11	5	1	0	2	0	1	0	0	4	1	5	26
BROOKLINE	176	138	25	4	7	32	10	7	9	3	2	106	519
BUCKLAND	6	5	0	0	0	0	1	0	0	0	0	1	13
BURLINGTON	35	30	8	1	1	9	5	4	2	1	1	21	118
CAMBRIDGE	240	214	46	3	18	43	23	16	9	2	11	157	782
CANTON	44	51	10	4	0	7	7	1	1	0	3	34	162
CARLISLE	4	3	1	1	0	2	0	1	1	0	0	4	17
CARVER	28	21	4	5	1	3	4	6	0	0	2	9	83
CHARLEMCNT	4	3	2	1	0	1	0	0	0	0	1	3	15
CHARLTON	27	14	4	0	1	5	4	0	1	2	0	10	68
CHATHAM	33	37	3	2	1	1	3	3	0	6	1	15	105
CHELMSFORD	52	55	19	3	5	1	7	6	2	3	3	28	184
CHELSEA	100	87	17	7	9	7	10	9	2	0	4	84	336
CHESHIRE	13	9	3	0	0	1	0	2	0	0	0	8	36
CHESTER	6	2	0	0	0	0	1	0	0	0	0	1	10
CHESTERFIELD	3	1	1	2	0	0	0	0	0	0	1	1	9
CHICOPEE	251	167	37	4	6	20	17	20	7	12	2	98	641
CHILMARK	1	1	0	0	1	1	0	0	0	0	0	1	5
CLARKSBURG	5	2	1	0	0	2	1	1	0	0	0	1	13
CLINTON	36	29	8	2	1	2	2	2	4	1	0	26	113
COHASSET	14	16	2	1	1	0	1	1	1	0	0	14	51
COLRAIN	4	1	1	0	0	0	0	1	2	0	1	3	13
CONCORD	27	37	12	1	3	6	3	0	1	1	0	28	119
CONWAY	4	0	1	1	0	0	2	0	0	0	0	0	8
CUMMINGTON	4	1	0	0	0	0	2	0	0	0	1	3	11
DALTON	23	15	3	3	1	5	4	2	1	0	0	17	74
DANVERS	131	50	21	4	1	12	11	6	3	3	1	35	278
DARTMOUTH	77	54	15	2	4	6	4	4	5	11	2	30	214
DEDHAM	71	79	16	7	5	16	6	4	6	1	2	53	266
DEERFIELD	10	13	0	1	1	3	3	0	0	2	0	6	39
DENNIS	70	43	21	1	2	7	1	5	2	10	0	30	192
DIGHTON	13	16	6	5	0	0	4	0	0	1	0	2	47
DOUGLAS	11	9	1	2	0	0	0	1	1	0	0	4	29
DOVER	7	4	2	1	0	1	0	1	0	0	0	4	20
DRACUT	54	36	9	2	1	3	9	6	1	2	1	28	152
DUDLEY	21	17	4	1	1	4	4	0	1	2	1	10	66
DUNSTABLE	4	2	1	1	0	0	0	0	0	0	2	1	11
DUXBURY	34	16	8	0	0	1	2	1	1	0	0	22	85
EAST BRIDGEWATER	30	20	7	4	3	7	1	0	1	0	0	8	81
EAST BROOKFIELD	6	4	0	0	0	0	1	0	2	0	0	3	16
EAST LONGMEADOW	47	33	9	2	1	2	7	0	1	3	1	20	126
EASTHAM	13	12	3	1	1	2	2	0	1	1	0	12	48
EASTHAMPTON	41	33	10	1	1	8	7	4	0	0	3	23	131
EASTON	41	25	8	3	3	6	3	2	1	0	0	17	109
EDGARTOWN	10	8	1	0	0	0	1	0	0	0	0	11	31
EGREMONT	5	3	0	0	0	1	0	0	0	0	1	3	13

TABLE C-14A (CONTINUED)  
SELECTED CAUSES OF DEATH BY CITY AND TOWN OF RESIDENCE  
1989

	HEART DISEASES (390-398, 402, 404-429)	MALIGNANT NEOPLASMS (140-209)	CEREBROVASCULAR DISEASE (430-438)	MOTOR VEHICLE ACCIDENTS (810-825)	OTHER ACCIDENTS (800-807, 826-949)	INFLUENZA & PNEUMONIA (480-487)	CHRONIC OBSTRUCTIVE PULMONARY (490-496)	DIABETES MELLITUS (250)	CHRONIC LIVER DIS. & CIRRHOSIS (571)	ATHEROSCLEROSIS (440)	SUICIDE (950-959)	ALL OTHER CAUSES	TOTAL
ERVING	1	4	0	0	0	1	0	1	0	0	0	1	8
ESSEX	7	4	0	0	1	0	1	0	0	1	1	4	19
EVERETT	125	114	32	2	4	17	13	5	9	0	2	68	391
FAIRHAVEN	63	39	10	3	1	1	3	3	2	12	2	30	169
FALL RIVER	409	275	104	13	12	24	33	43	16	14	8	179	1130
FALMOUTH	82	74	21	4	3	10	8	7	3	1	3	48	264
FITCHBURG	169	113	39	3	12	10	9	12	9	3	3	89	471
FLORIDA	3	1	0	0	0	0	0	0	0	1	0	3	7
FOXBOROUGH	26	24	12	3	0	3	0	2	0	1	0	16	87
FRAMINGHAM	169	150	41	5	14	42	20	12	5	2	7	149	616
FRANKLIN	36	36	9	4	2	7	5	2	2	0	1	28	132
FREETOWN	12	10	0	1	0	0	0	3	0	0	1	3	30
GARDNER	90	46	10	3	3	9	16	3	3	3	2	31	219
GAY HEAD	1	0	0	0	0	0	0	0	0	0	0	0	1
GEORGETOWN	14	11	4	0	1	4	1	2	0	1	0	8	46
GILL	4	5	0	0	0	0	1	0	0	0	0	3	13
GLOUCESTER	92	62	18	1	2	7	8	10	6	3	1	38	248
GOSHEN	0	2	2	2	0	0	0	0	0	0	2	0	8
GOSNOLD	0	0	0	0	0	0	0	0	0	0	0	1	1
GRAFTON	36	32	5	1	1	1	2	2	0	1	0	19	100
GRANBY	12	12	3	0	0	1	1	0	0	1	0	10	40
GRANVILLE	4	1	0	0	0	0	1	0	0	1	0	0	6
GREAT BARRINGTON	31	15	8	1	2	8	4	2	2	6	2	18	99
GREENFIELD	75	60	20	2	4	10	17	9	3	3	1	60	264
GROTON	10	9	0	0	0	0	1	1	1	0	0	11	33
GROVELAND	9	7	0	0	0	1	3	0	0	1	1	1	23
HADLEY	4	6	3	0	1	1	1	1	0	0	0	5	22
HALIFAX	22	16	4	0	0	1	2	0	1	0	0	11	57
HAMILTON	14	10	2	2	0	1	0	0	0	0	0	3	35
HAMPDEN	15	7	2	2	0	0	1	2	0	0	1	4	34
HANCOCK	1	1	0	0	0	0	0	0	0	0	1	2	5
HANOVER	26	27	0	1	2	0	7	3	1	1	1	13	81
HANSON	19	14	3	0	5	4	4	1	0	0	0	7	57
HARDWICK	9	4	1	1	0	0	1	0	0	0	0	3	19
HARVARD	8	5	0	0	1	0	3	1	0	0	0	2	20
HARWICH	38	46	12	5	2	1	6	1	1	11	0	30	153
HATFIELD	12	9	2	0	0	1	1	0	2	0	0	8	35
HAVERHILL	203	105	20	5	6	22	19	14	9	15	6	76	500
HAWLEY	0	1	0	0	0	0	0	0	0	0	0	0	1
HEATH	2	1	0	0	0	0	0	0	0	0	0	1	4

HINGHAM	47	43	8	2	3	5	5	3	1	2	1	26	146
HINSOALE	7	3	1	0	0	1	1	0	0	1	0	5	19
HOLBROOK	31	24	3	3	3	2	1	2	1	0	0	15	85
HOLDEN	33	29	13	0	3	1	0	3	0	1	2	21	106
HOLLAND	4	3	0	0	1	0	1	0	0	0	0	1	10
HOLLISTON	25	20	5	0	1	1	0	1	3	1	1	8	66
HOLYOKE	187	124	58	2	5	20	22	5	14	5	1	110	553
HOPEDALE	17	9	0	2	1	2	3	1	0	0	0	7	42
HOPKINTON	8	6	3	2	0	1	2	1	1	0	0	7	31
HUGBARDSTON	4	3	0	0	0	0	0	0	0	0	0	2	9
HUDSON	42	26	5	0	5	6	2	1	2	0	2	16	107
HULL	27	18	2	0	1	2	2	2	0	0	2	13	69
HUNTINGTON	6	2	1	2	0	0	1	0	0	0	0	2	14
IPSMICH	34	28	2	3	1	2	3	4	0	1	1	20	99
KINGSTON	19	18	7	1	2	4	4	2	1	0	1	10	69
LAKEVILLE	19	13	6	1	1	0	2	4	0	1	0	8	55
LANCASTER	11	10	1	0	0	5	0	1	0	0	0	13	41
LANESBOROUGH	6	10	1	1	2	0	1	0	0	0	0	5	26
LAURENCE	246	133	37	17	11	24	22	13	5	4	11	132	655
LEE	23	12	1	2	0	5	5	4	1	1	0	8	62
LEICESTER	18	20	4	1	1	1	5	2	0	0	2	15	69
LENOX	36	10	3	0	1	7	2	2	0	2	2	13	78
LECHINSTER	105	86	29	4	4	18	15	7	5	2	4	63	342
LEVERETT	1	2	0	0	1	0	0	0	0	0	0	1	5
LEXINGTON	67	72	15	2	2	10	7	9	1	0	3	44	232
LEYDEN	2	0	1	0	0	0	0	0	0	0	0	1	4
LINCOLN	4	10	4	0	1	3	2	0	0	1	2	2	29
LITTLETON	22	12	10	2	1	3	0	0	0	2	0	6	58
LONGMEADOW	44	35	10	1	1	5	1	4	0	1	0	26	128
LOMELL	327	239	65	11	24	29	35	22	18	9	5	196	980
LUDLOW	66	52	10	1	3	4	8	4	3	0	0	15	166
LUNENBURG	17	19	4	1	1	0	4	0	1	0	0	7	54
LYNN	353	201	41	2	16	31	43	22	19	3	13	154	898
LYNNFIELD	24	25	4	0	0	5	1	1	1	1	0	4	66
MALDEN	185	145	23	7	8	22	20	11	7	1	5	110	544
MANCHESTER	17	22	5	1	2	4	1	0	0	0	0	6	58
MANSFIELD	17	31	3	4	2	4	5	1	3	1	2	14	87
MARBLEHEAD	61	46	12	2	2	2	7	1	2	1	2	35	173
MARION	12	13	2	2	0	1	1	0	1	0	1	6	39
MARLBOROUGH	103	68	14	2	6	11	10	3	1	0	1	40	259
MARSHFIELD	38	39	7	1	2	7	6	6	1	3	1	29	140
MASHPEE	20	22	4	4	1	3	4	0	2	0	1	11	72
MATTAPOISETT	17	10	6	1	1	1	2	0	0	2	0	10	50
MAYNARD	30	15	4	0	1	4	4	4	1	2	1	13	79
MEDFIELD	21	18	8	0	0	2	3	2	1	0	0	8	63
MEDFORD	201	127	34	4	9	24	24	19	12	2	2	107	565
MEDNAY	18	17	2	1	2	6	2	3	2	0	0	11	64
MELROSE	94	80	25	2	3	8	14	9	1	1	2	38	277
MENNON	9	3	0	0	2	0	3	0	0	0	1	7	25
MERRIMAC	16	10	1	1	0	0	1	2	0	0	0	5	36

TABLE C-14A (CONTINUED)  
SELECTED CAUSES OF DEATH BY CITY AND TOWN OF RESIDENCE  
1989

	HEART DISEASES (390-398, 402, 404-429)	MALIGNANT NEOPLASMS (140-209)	CEREBROVASCULAR DISEASE (430-438)	MOTOR VEHICLE ACCIDENTS (810-825)	OTHER ACCIDENTS (800-807, 826-949)	INFLUENZA & PNEUMONIA (480-487)	CHRONIC OBSTRUCTIVE PULMONARY (490-496)	DIABETES MELLITUS (250)	CHRONIC LIVER DIS. & CIRRHOSIS (571)	ATHEROSCLEROSIS (440)	SUICIDE (950-959)	ALL OTHER CAUSES	TOTAL
METHUEN	163	93	41	6	2	20	11	6	4	5	3	61	415
MIDDLEBOROUGH	68	51	8	1	7	6	4	10	4	3	2	21	185
MIDDLEFIELD	1	0	1	0	0	0	0	0	0	0	0	0	2
MIDDLETON	14	12	2	0	0	1	3	2	0	0	0	0	36
MILFORD	55	53	10	5	2	3	4	3	1	0	0	36	172
MILLBURY	32	34	2	0	3	4	9	7	0	0	0	18	109
MILLS	18	11	2	1	0	1	3	1	1	0	1	7	46
MILLVILLE	2	8	1	0	0	1	0	0	0	0	0	3	15
MILTON	86	70	17	2	4	18	12	6	2	0	2	47	266
MONROE	2	1	0	0	0	0	0	0	0	0	0	0	3
MONSON	22	19	6	1	0	2	2	0	0	0	0	15	67
MONTAGUE	41	25	4	2	3	3	5	7	2	0	1	26	119
MONTGOMERY	2	1	1	0	0	0	0	0	1	0	0	0	5
MONTGOMERY	1	3	0	1	0	1	0	0	0	0	0	0	6
MOUNT WASHINGTON	1	0	0	0	0	0	0	0	0	0	0	0	1
NAHANT	8	9	3	0	3	1	2	2	0	0	0	5	33
NANTUCKET	21	22	6	0	1	6	0	4	3	1	1	10	75
NATICK	78	64	22	2	3	9	7	4	7	0	1	42	239
NEEDHAM	70	66	18	3	5	13	12	3	2	3	1	43	239
NEW ASHFORD	0	2	0	0	0	0	0	0	0	0	0	0	2
NEW BEDFORD	359	235	88	14	15	32	39	25	20	96	6	199	1128
NEW BRAINTREE	2	1	0	1	0	0	0	0	0	0	0	0	4
NEW MARLBOROUGH	6	5	1	1	1	1	0	0	0	0	0	0	15
NEW SALEM	4	1	1	0	0	0	0	0	0	0	0	1	7
NEWBURY	10	10	2	1	0	1	1	1	0	0	0	6	32
NEWBURYPORT	74	35	18	0	3	7	9	4	4	2	3	32	191
NEWTON	225	183	37	3	17	30	11	16	6	2	5	130	665
NORFOLK	15	3	3	4	0	0	3	1	1	0	2	4	36
NORTH ADAMS	70	49	11	5	5	8	7	6	1	1	0	38	201
NORTH ANDOVER	69	44	15	4	3	6	7	4	1	1	0	24	178
NORTH ATTLEBORO	53	42	17	4	1	5	4	9	1	2	1	30	169
NORTH BROOKFIELD	13	13	1	0	3	1	2	0	0	0	2	8	43
NORTH READING	24	19	2	2	2	2	1	2	1	0	1	15	71
NORTHAMPTON	113	60	19	3	4	14	20	3	1	2	4	47	290
NORTHBOROUGH	14	14	5	2	1	6	0	1	1	0	0	13	57
NORTHBOROUGH	33	30	3	0	1	6	4	3	2	0	0	31	113
NORTHFIELD	6	7	3	0	0	0	0	1	0	0	1	5	23
NORTON	36	25	9	2	1	4	0	1	1	0	2	13	94
NORWELL	18	25	4	0	0	3	3	2	1	0	0	5	61
NORWOOD	88	77	23	4	5	14	10	6	3	5	3	71	309

OAK BLUFFS	OAKHAM	14	20	1	1	4	0	5	3	0	2	0	5	55
	ORANGE	5	3	0	3	0	0	0	0	0	0	0	1	12
	ORLEANS	21	16	2	0	0	1	2	4	1	0	1	10	58
	OTIS	25	31	6	2	2	1	3	2	0	4	2	10	88
	OXFORD	5	3	0	1	0	1	1	0	1	1	0	0	13
	PALMER	22	22	5	2	2	2	4	1	3	0	0	16	79
	PAXTON	46	29	5	1	2	6	3	6	2	2	4	10	116
	PEABODY	5	6	2	1	1	2	0	0	0	0	0	2	19
	PELHAM	128	108	22	3	6	20	11	9	6	4	4	49	370
	PEMBROKE	2	2	1	1	0	0	0	0	0	0	0	3	9
	PEPPERELL	32	24	1	2	3	2	1	1	5	0	2	15	88
	PERU	13	14	3	2	1	4	5	2	1	1	1	9	56
	PETERSHAM	3	0	0	0	0	0	0	0	0	0	0	0	4
	PHILLIPSTON	4	4	0	0	1	0	0	0	0	0	0	1	2
	PITTSFIELD	5	2	1	0	1	1	0	0	0	0	0	2	12
	PLAINFIELD	195	133	27	9	12	22	25	14	3	6	8	105	559
	PLAINVILLE	1	0	0	0	0	0	0	0	0	0	0	0	1
	PLYMOUTH	17	9	1	0	0	2	0	1	1	0	0	1	8
	PLYMPTON	119	87	22	8	6	13	15	7	2	0	4	54	337
	PRINCETON	4	3	0	1	0	0	0	0	0	0	0	1	9
PROVINCETOWN	PRINCETON	4	6	0	0	0	1	0	1	0	0	0	3	15
	PROVINCETOWN	6	10	2	0	0	2	3	1	0	0	0	21	45
	QUINCY	309	269	54	10	13	40	30	27	20	3	9	155	939
	RANDOLPH	86	83	11	3	5	12	11	13	3	1	4	42	274
	RAYNHAM	21	16	7	1	0	2	1	3	0	0	0	7	58
	READING	50	55	12	3	1	8	8	11	3	2	0	36	189
	REHOBOTH	17	13	3	2	0	1	0	1	2	0	0	4	43
	REVERE	154	106	29	3	4	11	15	11	5	0	7	94	439
	RICHMOND	4	2	0	0	0	1	1	0	0	0	0	5	13
	ROCHESTER	7	2	3	0	0	0	0	0	0	0	0	1	13
ROCKLAND	ROCKLAND	37	34	14	4	2	5	7	4	2	1	1	19	130
	ROCKPORT	28	30	8	2	0	4	2	1	0	1	1	14	91
	ROHE	1	1	0	0	0	0	2	0	0	0	0	1	5
	ROWLEY	14	3	4	0	0	1	0	0	0	1	0	4	27
	ROYALSTON	6	2	2	0	0	0	1	0	0	0	1	2	14
	RUSSELL	3	2	1	1	0	0	0	0	0	0	0	1	8
	RUTLAND	16	5	2	0	0	0	1	1	0	0	0	2	27
	SALEM	127	103	21	1	9	13	17	4	6	1	8	76	386
	SALISBURY	22	18	3	5	2	2	5	1	2	1	0	11	72
	SANDISFIELD	0	0	0	2	1	2	1	0	0	0	0	1	7
SANDWICH	SANDWICH	47	36	7	1	0	3	2	4	3	0	1	24	128
	SAUGUS	83	75	17	5	3	6	10	9	4	2	2	37	253
	SAVOY	0	1	0	0	0	0	0	0	0	0	0	1	2
	SCITUATE	47	30	9	1	2	5	4	1	1	1	2	26	129
	SEEKONK	29	24	2	0	2	5	1	1	0	1	1	12	78
	SHARON	28	25	1	1	1	1	1	2	0	3	1	11	75
	SHEFFIELD	7	4	3	1	1	2	1	0	0	0	0	6	25
	SHELBURNE	9	9	1	0	1	2	1	2	0	0	1	8	34
	SHERBORN	5	5	1	1	0	1	1	2	0	0	2	7	25
	SHIRLEY	13	6	1	0	1	0	1	0	2	0	0	7	31

TABLE C-14A (CONTINUED)  
SELECTED CAUSES OF DEATH BY CITY AND TOWN OF RESIDENCE  
1989

	HEART DISEASES (390-398, 402, 404-429)	MALIGNANT NEOPLASMS (140-209)	CEREBROVASCULAR DISEASE (430-438)	MOTOR VEHICLE ACCIDENTS (810-825)	OTHER ACCIDENTS (800-807, 826-949)	INFLUENZA & PNEUMONIA (480-487)	CHRONIC OBSTRUCTIVE PULMONARY (490-496)	DIABETES MELLITUS (250)	CHRONIC LIVER DIS. & CIRRHOSIS (571)	ATHEROSCLEROSIS (440)	SUICIDE (950-959)	ALL OTHER CAUSES	TOTAL
SHREWSBURY	60	46	8	2	2	6	8	8	0	4	2	44	190
SHUTESBURY	4	2	0	0	0	0	0	0	0	0	0	0	6
SOMERSET	64	48	9	5	1	2	8	4	5	1	0	29	176
SOMERVILLE	218	181	27	2	13	41	28	22	13	3	6	114	668
SOUTH HADLEY	51	42	10	4	1	8	8	4	1	2	0	24	155
SOUTHAMPTON	13	10	1	0	1	0	0	1	0	0	0	3	29
SOUTHBOROUGH	8	6	1	0	1	0	2	0	0	0	2	1	21
SOUTHBURGH	78	42	8	4	9	6	2	7	2	2	2	24	190
SOUTHBURGE	12	12	3	0	0	3	2	0	2	1	0	5	40
SOUTHWICK	31	28	7	2	1	2	3	3	0	1	0	16	94
SPENCER													
SPRINGFIELD	536	365	108	24	25	74	48	43	26	20	14	339	1622
STERLING	9	11	2	0	2	2	1	1	0	0	0	6	34
STOCKBRIDGE	8	5	1	1	0	1	2	1	0	0	1	6	26
STONEHAM	67	49	24	4	2	4	7	6	1	2	2	44	212
STOUGHTON	70	54	15	3	2	7	10	6	3	2	4	40	216
STON	8	5	0	0	0	0	1	1	2	0	0	5	22
STURBRIDGE	19	7	1	1	0	1	0	1	0	0	2	5	37
SUDBURY	24	19	4	2	1	7	1	4	1	0	1	12	76
SUNDERLAND	4	3	1	1	2	1	0	0	0	0	0	1	13
SUTTON	7	16	3	1	1	2	4	2	0	0	0	10	46
SWAMPSCOTT	52	34	8	2	3	5	3	4	0	1	0	27	139
SWANSEA	42	30	6	4	1	6	8	1	1	1	1	14	115
TAUNTON	133	93	41	6	7	14	14	11	4	3	3	58	387
TEMPLETON	20	21	3	0	2	2	2	3	0	0	0	12	65
TEWKSDURY	51	51	10	3	2	8	7	6	4	0	3	26	171
TISBURY	11	6	2	0	2	2	3	1	0	0	1	3	31
TOLLAND	1	0	0	1	0	0	0	0	0	0	0	0	2
TOPSFIELD	9	7	1	1	2	0	0	0	0	0	0	4	24
TOMSEND	8	9	0	0	0	2	3	1	0	0	0	7	30
TRURO	7	5	1	0	2	0	0	2	0	1	0	2	20
TYNGBOROUGH	14	13	0	2	1	0	2	2	1	1	0	5	41
TRYINGHAM	3	0	0	0	0	1	0	0	0	0	0	0	4
UPTON	11	6	1	1	0	1	0	0	1	1	2	7	31
UXBRIDGE	26	29	5	3	1	4	5	2	0	0	2	11	88
WAKEFIELD	81	65	12	6	2	2	8	6	1	1	3	48	235
WALES	2	1	0	1	0	0	0	0	0	1	0	0	5
WALPOLE	43	42	5	0	3	6	4	3	0	1	2	22	131
WALTHAM	152	144	36	9	15	28	24	15	9	5	3	96	536
WARE	38	25	4	2	2	3	7	1	0	1	2	14	99
WAREHAM	67	50	11	3	1	5	6	3	3	0	1	24	174

WARREN	15	11	1	1	1	1	1	1	1	0	0	0	0	0	0	9	41
WARWICK	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	4
WASHINGTON	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4
WATERTOWN	115	96	27	3	5	16	12	6	4	3	0	0	0	0	0	59	346
WAYLAND	25	24	7	2	2	8	2	0	0	0	1	1	1	1	1	15	87
WEBSTER	70	65	15	4	3	5	7	3	2	0	0	0	0	0	0	37	211
WELLESLEY	66	68	17	1	6	14	10	3	4	2	4	2	4	3	3	33	228
WELLFLEET	3	10	0	1	0	0	1	1	0	0	1	1	1	1	5	23	2
WENDELL	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
WENHAM	7	8	1	1	2	3	1	0	0	0	0	0	0	1	4	4	28
WEST BOYLSTON	28	8	6	1	1	5	6	1	1	0	0	0	0	0	11	68	
WEST BRIDGEWATER	25	15	3	2	2	2	4	3	1	3	0	0	0	0	9	69	
WEST BROOKFIELD	11	6	2	0	0	1	0	1	1	0	0	0	0	0	5	27	
WEST NEWBURY	8	4	2	0	0	0	0	0	0	0	1	0	0	1	1	16	
WEST SPRINGFIELD	101	64	23	3	0	23	10	7	0	2	1	1	1	54	1	288	
WEST STOCKBRIDGE	4	2	0	0	0	0	0	1	0	0	0	0	0	0	1	8	
WEST TISBURY	3	0	2	0	0	0	0	1	0	0	0	0	0	1	2	9	
WESTBOROUGH	51	34	11	1	1	9	3	1	0	0	0	0	0	1	35	147	
WESTFIELD	105	72	15	6	3	9	9	6	2	4	6	6	4	48	285		
WESTFORD	24	25	4	1	2	1	2	2	0	0	2	0	0	2	10	73	
WESTHAMPTON	2	2	1	0	0	0	1	0	0	0	0	0	0	1	1	8	
WESTHINSTER	18	9	4	3	1	2	1	1	0	2	0	2	0	0	9	50	
WESTON	31	19	6	0	2	6	2	2	2	0	1	0	0	1	18	89	
WESTPORT	31	30	8	6	2	3	3	3	1	0	2	0	2	21	110		
WESTWOOD	38	35	7	0	1	5	1	1	1	0	3	0	3	16	108		
WEYMOUTH	178	137	34	6	4	26	15	16	7	0	4	4	4	75	502		
WHATELY	6	3	1	0	0	2	0	0	0	0	0	0	0	3	15		
WHITMAN	36	23	4	4	0	5	4	3	1	0	0	0	1	10	91		
WILBRAHAM	26	27	8	2	1	2	5	2	1	1	1	1	1	9	85		
WILLIAMSBURG	8	4	0	1	1	1	2	2	0	0	0	0	0	1	20		
WILLIAMSTOWN	18	18	12	0	1	6	3	3	0	1	1	1	1	18	81		
WILMINGTON	36	27	6	1	0	1	2	3	2	3	3	3	1	11	93		
WINCHENDON	15	17	5	5	0	4	3	8	1	0	0	0	0	15	73		
WINCHESTER	57	54	12	2	4	8	5	1	1	2	1	1	1	29	176		
WINDSOR	6	0	0	0	1	1	1	0	0	0	0	0	0	3	12		
WINTHROP	71	49	5	1	4	10	7	6	3	0	1	1	1	37	104		
WOZURN	96	79	21	5	3	15	10	12	6	0	4	4	4	56	307		
NORCOSTER	642	437	94	21	19	98	62	66	18	18	19	19	19	404	1898		
NORTHINGTON	2	3	1	0	0	0	3	0	0	0	0	0	0	1	10		
NORTHAM	12	18	6	1	1	6	3	1	2	1	2	1	2	10	69		
YARMOUTH	91	86	22	4	1	12	12	13	7	9	5	5	5	55	317		

TABLE C-14B  
SELECTED CAUSES OF DEATH BY COUNTY OF RESIDENCE  
1989

	HEART DISEASES (390-398, 402, 404-429)	MALIGNANT NEOPLASMS (140-209)	CEREBROVASCULAR DISEASE (430-438)	MOTOR VEHICLE ACCIDENTS(810-825)	OTHER ACCIDENTS (800-807,826-949)	INFLUENZA & PNEUMONIA (480-487)	CHRONIC OBSTRUCTIVE PULMONARY (490-496)	DIABETES MELLITUS (250)	CHRONIC LIVER DIS. & CIRRHOSIS (571)	ATHEROSCLEROSIS (440)	SUICIDE (950-959)	ALL OTHER CAUSES	TOTAL
BARNSTABLE	620	640	161	36	28	75	69	60	27	63	20	396	2195
BERKSHIRE	534	342	89	30	30	84	68	45	12	20	21	295	1570
BRISTOL	1528	1119	367	83	57	128	145	125	75	151	38	733	4549
DUKES	40	35	6	1	7	3	9	5	0	2	2	23	133
ESSEX	2298	1472	387	80	90	240	232	138	85	58	68	1023	6171
FRANKLIN	225	173	39	10	13	25	36	25	8	5	7	142	708
HAMPDEN	1577	1079	312	55	51	179	145	109	62	55	32	805	4461
HAMPSHIRE	359	251	70	25	14	46	58	22	7	6	15	187	1060
MIDDLESEX	3678	3014	735	131	206	502	394	294	158	65	102	2128	11407
NANTUCKET	21	22	6	0	1	6	0	4	3	1	1	10	75
NORFOLK	1740	1507	346	72	80	259	188	124	82	29	55	958	5440
PLYMOUTH	1190	882	216	60	67	133	129	75	47	22	36	553	3410
SUFFOLK	1875	1481	329	66	118	268	191	148	109	21	71	1606	6283
HORCESTER	2114	1570	367	95	103	257	229	165	66	44	55	1221	6286
STATE TOTAL	17799	13587	3430	744	865	2205	1893	1339	741	542	523	10080	53748



TABLE C-15  
RESIDENT DEATHS BY CAUSE, SEX, AND RACE  
1989

ICD, LIST NUMBER	CAUSE OF DEATH	T O T A L S		W H I T E		B L A C K		O T H E R	
		TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE
*001-139	I. INFECTIVE AND PARASITIC DISEASES	1274	736	538	1129	648	481	134	84
001-009	INTestinal Infectious Diseases	14	9	5	13	9	4	1	0
004	SALMONELLA GASTROENTERITIS	3	2	1	3	2	1	0	0
008	INTESTINAL INFECTION DUE TO ESCHERICHIA COLI	6	4	2	6	4	2	0	0
009	INFECTION COLITIS, ENTERITIS, GASTROENTERITIS	5	3	2	4	3	1	1	0
010-018	TUBERCULOSIS	26	11	15	23	10	13	2	1
011	TUBERCULOSIS OF LUNG, INFILTRATIVE	23	9	14	22	9	13	1	0
017	TB OF SKIN AND SUBCUT CELLULAR TISSUES	1	1	0	1	1	0	0	0
018	ACUTE MILIARY TUBERCULOSIS	2	1	1	0	0	0	1	0
020-027	ZOOONOTIC BACTERIAL DISEASES	3	1	2	3	1	2	0	0
027	LISTERIOSIS (BACTERIAL DISEASE)	3	1	2	3	1	2	0	0
030-041	OTHER BACTERIAL DISEASES	651	264	387	601	244	357	42	17
031	PULMONARY DISEASES DUE TO MYCOBACTERIA	6	1	5	5	1	4	0	0
034	STREPTOCOCCAL SORE THROAT	1	0	1	1	0	1	0	0
036	MENINGOCOCCAL MENINGITIS	4	1	3	4	1	3	0	0
038	STREPTOCOCCAL SEPTICAEMIA	624	253	371	575	233	342	42	17
039	CUTANEOUS ACTINOMYCOTIC INFECTION	2	1	1	2	1	1	0	0
040	GAS GANGRENE (BACTERIAL DISEASES)	4	1	3	4	1	3	0	0
041	STREPTOCOCCUS BACTERIAL INFECTION	10	7	3	10	7	3	0	0
042-044	AIDS, ARC AND ARV	404	359	45	327	301	26	76	58
042	AIDS	382	340	42	312	289	23	69	51
043	ARC CAUSING LYMPHADENOPATHY	1	1	0	1	1	0	0	0
044	ARV, AAV, LAV, HIV CAUSING ACUTE INFECTIONS	21	18	3	14	11	3	7	7
045-049	POLIOMYELITIS AND OTHER ENTEROVIRUS	15	7	8	13	6	7	2	1
046	DIS. OF CENTRAL NERVOUS SYSTEM	11	5	6	11	5	6	0	0
048	KURU VIRUS INFECTION OF CNS	1	0	1	0	0	0	0	0
049	OTHER ENTEROVIRUS DISEASES OF CNS	3	2	1	2	1	1	1	1
050-057	LYMPHO CYTIC CHORIOMENINGITIS OF CNS	10	6	4	10	6	4	0	0
052	VIRAL DISEASES ACCOMPANIED BY EXANTHEM	2	1	1	2	1	1	0	0
053	CHICKENPOX	5	3	2	5	3	2	0	0
054	HERPES ZOSTER WITH MENINGITIS	2	1	1	2	1	1	0	0
055	HERPES SIMPLEX, ECZEMA HERPETICUM	1	1	0	1	1	0	0	0
070-079	POSTMEASLES ENCEPHALITIS	53	26	27	51	25	26	2	1
070	OTHER VIRAL DISEASES	37	18	19	36	18	18	1	0
078	VIRAL HEPATITIS A WITH HEPATIC COMA	5	4	1	4	3	1	1	1
079	MOLLUSCUM CONTAGIOSUM OTHER VIRUSES	11	4	7	11	4	7	0	0
080-088	ADENOVIRUS, UNSPECIFIED SITE	1	0	1	1	0	1	0	0
087	RICKETTSIOSIS AND OTHER ARTHROPOD-BORNE DISEASES	1	0	1	1	0	1	0	0
089	LOUSE-BORNE RELAPSING FEVER	1	0	1	1	0	1	0	0
090-099	SYPHILIS AND OTHER VENEREAL DISEASES	5	3	2	5	3	2	0	0
094	TABES DORSALIS NEUROSYPHILIS	4	2	2	4	2	2	0	0
099	CHANCROID VENERAL DISEASE	1	1	0	1	1	0	0	0
110-118	MYCOSES	50	22	28	46	19	27	4	3
112	CANDIDIASIS OF MOUTH	19	5	14	19	5	14	0	0
114	COCIDIOIDOMYCOSIS	1	0	1	0	0	0	1	0
117	RHINOSPORIDIOMYCOSIS	30	17	13	27	14	13	3	3
*130-136	OTHER INFECTIVE AND PARASITIC DISEASES	30	22	8	24	18	6	5	3
130	TOXOPLASMOSIS	2	2	0	2	2	0	0	0
134	MYIASIS INFESTATION	1	1	0	1	1	0	0	0

TABLE C-15

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ICD. LIST NUMBER	CAUSE OF DEATH I. INFECTIVE AND PARASITIC DISEASES (CONTINUED)	T O T A L S			W H I T E			B L A C K			O T H E R		
		TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM
135	SARCOIDOSIS	9	4	5	8	4	4	1	0	1	0	0	0
136	AINHUM	18	15	3	13	11	2	4	3	1	1	1	0
137-139	LATE EFFECTS OF INFECTIOUS AND PARASITIC DISEASES	12	6	6	12	6	6	0	0	0	0	0	0
137	LATE EFFECTS RESPIRATORY OR UNSP TB	8	4	4	8	4	4	0	0	0	0	0	0
138	LATE EFFECTS ACUTE POLIOMYELITIS	4	2	2	4	2	2	0	0	0	0	0	0
*140-239	II. NEOPLASMS	13806	6914	6892	13310	6640	6670	412	225	187	84	49	35
140-149	MALIGNANT NEOPLASM OF LIP, ORAL CAVITY AND PHARYNX	236	153	83	225	144	81	8	6	2	3	3	0
140	MALIGNANT NEOPLASM OF UPPER LIP	2	1	1	2	1	1	0	0	0	0	0	0
141	MALIG NEOP BASE OF TONGUE	61	37	24	58	35	23	3	2	1	0	0	0
142	MALEG NEOP PAROTID GLAND	18	10	8	18	10	8	0	0	0	0	0	0
143	MALIG NEOP UPPER GUM	1	0	1	1	0	1	0	0	0	0	0	0
144	MALIG NEOP ANTERIOR PORTION FLOOR MOUTH	6	3	3	6	3	3	0	0	0	0	0	0
145	MALIG NEOP CHEEK MUCOSA	40	27	13	40	27	13	0	0	0	0	0	0
146	MALIG NEOP OF TONSIL	31	19	12	30	18	12	1	1	0	0	0	0
147	MALIG NEOP NASOPHARYNX SUPERIOR WALL	16	11	5	14	9	5	0	0	0	2	2	0
148	MALIG NEOP HYPOPHARYNX POSTERIOID REG	16	15	1	14	13	1	2	2	0	0	0	0
149	MALIG NEOP PHARYNX,UNSPECIFIED	45	30	15	42	28	14	2	1	1	1	1	0
150-159	MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM	3530	1835	1695	3377	1743	1634	121	66	55	32	26	6
150	MALIG NEOP CERVICAL PT OESOPHAGUS	282	204	78	259	189	70	21	13	8	2	2	0
151	MALIG NEOP OF STOMACH,CARDIA	436	252	184	413	241	172	19	7	12	4	4	0
152	MALIG NEOP OF DUODENUM	13	5	8	12	5	7	1	0	1	0	0	0
153	MALIG NEOP OF HEPATIC FLEXURE	1431	708	723	1377	679	698	46	23	23	8	6	2
154	MALIG NEOP OF RECTOSIGMOID JUNCTION	268	140	128	261	136	125	4	3	1	3	1	2
155	MALIG NEOP OF LIVER PRIMARY	219	130	89	202	115	87	7	6	1	10	9	1
156	MALIG NEOP OF GALL BLADDER	115	45	70	112	42	70	2	2	0	1	1	0
157	MALIG NEOP HEAD OF PANCREAS	692	323	369	667	308	359	21	12	9	4	3	1
158	MALIG NEOP OF RETROPERITONEUM	14	4	10	14	4	10	0	0	0	0	0	0
159	MALIG NEOP INTESTINAL TRACT PT UNSPEC	60	24	36	60	24	36	0	0	0	0	0	0
160-165	MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS	3544	2161	1383	3428	2079	1349	102	72	30	14	10	4
160	MALIG NEOP OF NASAL CAVITIES	11	6	5	11	6	5	0	0	0	0	0	0
161	MALIG NEOP GLOTTIS LARYNX	95	72	23	90	67	23	4	4	0	1	1	0
162	MALIG NEOP OF TRACHEA	3420	2072	1348	3312	1996	1316	96	67	29	12	9	3
163	MALIG NEOP OF PLEURA PARIETAL	8	5	3	7	5	2	1	0	1	0	0	0
164	MALIG NEOP OF THYMUS	9	5	4	7	4	3	1	1	0	1	0	1
165	MALIG NEOP UPPER RESPIRATORY TRACT PT UN	1	1	0	1	1	0	0	0	0	0	0	0
170-175	MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST	1577	216	1361	1527	210	1317	43	5	38	7	1	6
170	MALIG NEOP BONES OF SKULL AND FACE	29	15	14	28	15	13	1	0	1	0	0	0
171	MALIG NEOP OF HEAD FACE AND NECK	80	46	34	74	43	31	4	2	2	2	1	1
172	MALIG MELANOMA OF LIP	172	95	77	172	95	77	0	0	0	0	0	0
173	MALIG NEOP OF SKIN OF LIP	71	49	22	68	46	22	3	3	0	0	0	0
174	MAL NEOP NIPPLE & AREOLA OF FEM BREAST	1214	0	1214	1174	0	1174	35	0	35	5	0	5

TABLE C-15 (CONTINUED)

1989

ICD. LIST NUMBER	CAUSE OF DEATH II. NEOPLASMS (CONTINUED)	***** T O T A L S *****				***** W H I T E *****				***** B L A C K *****				***** O T H E R *****			
		TOT	MALE	FEM		TOT	MALE	FEM		TOT	MALE	FEM		TOT	MALE	FEM	
175	MAL NEOP OF MALE BREAST EXCL SKIN BREAST	11	11	0		11	11	0		0	0	0		0	0	0	
179-189	MALIGNANT NEOPLASM OF GENITOURINARY ORGANS	2034	1174	860		1959	1134	825		63	39	24		12	1	11	
179	MAL NEOP UTERUS,PART UNSPECIFIED	73	0	73		70	0	70		3	0	3		0	0	0	
180	MALIG NEOP ENDOCERVIX CERVIX UTERI	98	0	98		89	0	89		6	0	6		3	0	3	
182	MAL NEOP CORPUS UTERI,EXCEPT ISTHMUS	72	0	72		67	0	67		4	0	4		1	0	1	
183	MALIG NEOPLASM OF OVARY	337	0	337		327	0	327		6	0	6		4	0	4	
184	MALIG NEOP OF VAGINA	36	0	36		35	0	35		0	0	0		1	0	1	
185	MALIG NEOPLASM OF PROSTATE	777	777	0		748	748	0		28	28	0		1	1	0	
186	MALIG NEOP UNDESCENDED TESTIS	10	10	0		10	10	0		0	0	0		0	0	0	
187	MALIG NEOPLASM OF PREPUCE	11	11	0		11	11	0		0	0	0		0	0	0	
188	MALIG NEOP OF BLAODER TRIGONE	324	207	117		317	203	114		6	4	2		1	0	1	
189	MALIG NEOP KIDNEY EXCEPT PELVIS	296	169	127		285	162	123		10	7	3		1	0	1	
190-199	MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES	1478	729	749		1424	698	726		42	24	18		12	7	5	
190	MAL NEOP EYEBALL EXCEPT CONJ,COR,RET,ETC	3	1	2		2	1	1		1	0	1		0	0	0	
191	MALIG NEOP BRAIN CEREBRUM EXCP LOBES VEN	248	131	117		243	127	116		4	3	1		1	1	0	
192	MALIGNANT NEOPLASM CRANIAL NERVES	9	4	5		9	4	5		0	0	0		0	0	0	
193	MALIGNANT NEOPLASM OF THYROID GLAND	26	10	16		26	10	16		0	0	0		0	0	0	
194	MALIGNANT NEOPLASM OF SUPRARENAL GLAND	12	7	5		12	7	5		0	0	0		0	0	0	
195	MAL NEOP OF ILL-DEF SITES HEAD FACE NECK	118	63	55		111	58	53		4	3	1		3	2	1	
199	MAL NEOP WITHOUT SPEC SITE DISSEMINATED	1062	513	549		1021	491	530		33	18	15		8	4	4	
200-208	NEOPLASMS OF LYMPHATIC AND HEMATOPOIETIC TISSUE	1188	556	632		1160	544	616		25	11	14		3	1	2	
200	RETICULOSARCOMA	55	30	25		54	30	24		1	0	1		0	0	0	
201	HODGKIN'S PARAGRANULOMA	49	21	28		48	20	28		1	1	0		0	0	0	
202	NODULAR LYMPHOMA	417	184	233		409	179	230		7	5	2		1	0	1	
203	MULTIPLE MYELOMA	240	113	127		227	108	119		12	4	8		1	1	0	
204	ACUTE LYMPHOID LEUKAEMIA	129	74	55		127	74	53		1	0	1		1	0	1	
205	ACUTE MYELOID LEUKAEMIA	181	82	99		178	81	97		3	1	2		0	0	0	
206	ACUTE MONOCYTIC LEUKAEMIA	6	2	4		6	2	4		0	0	0		0	0	0	
207	ACUTE ERYTHAEMIA AND ERYTHROLEUKAEMIA	9	3	6		9	3	6		0	0	0		0	0	0	
208	ACUTE LEUK OF UNSPEC CELL TYPE	102	47	55		102	47	55		0	0	0		0	0	0	
210-229	BENIGN NEOPLASMS	44	13	31		38	11	27		5	2	3		1	0	1	
211	BENIGN NEOPLASM OF OESOPHAGUS	7	2	5		6	2	4		1	0	1		0	0	0	
212	BEN NEO OF NASAL CAV MID EAR & ACCES STN	1	0	1		1	0	1		0	0	0		0	0	0	
213	BENIGN NEOPLASM OF BONES OF SKULL & FACE	1	0	1		1	0	1		0	0	0		0	0	0	
216	BENIGN NEOP OF SKIN OF LIP	2	1	1		2	1	1		0	0	0		0	0	0	
220	BENIGN NEOPLASM OF OVARY	1	0	1		1	0	1		0	0	0		0	0	0	
225	BENIGN NEOP OF BRAIN	29	8	21		24	6	18		4	2	2		1	0	1	
227	BENIGN NEOP OF SUPRARENAL GLAND	1	1	0		1	1	0		0	0	0		0	0	0	
228	HAEMANGIOMA,ANY SITE	1	1	0		1	1	0		0	0	0		0	0	0	
229	BENIGN NEOP LYMPH NODES	1	0	1		1	0	1		0	0	0		0	0	0	
230-234	CARCINOMA IN SITU	1	0	1		1	0	1		0	0	0		0	0	0	
233	CARCINOMA IN-SITU OF BREAST	1	0	1		1	0	1		0	0	0		0	0	0	
235-238	NEOPLASMS OF UNCERTAIN BEHAVIOUR	42	18	24		41	18	23		1	0	1		0	0	0	
235	NEOP OF UNCERT BEHAV OF MAJOR SALIVAR GL	1	0	1		1	0	1		0	0	0		0	0	0	

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TABLE C-15 (CONTINUED)

1989

ICD, LIST NUMBER	CAUSE OF DEATH	T O T A L S			W H I T E			B L A C K			O T H E R		
		TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM
*290-294	V. MENTAL DISORDERS	614	249	365	589	234	355	21	14	7	4	1	3
290	ORGANIC PSYCHOTIC CONDITIONS	241	85	156	235	82	153	3	2	1	3	1	2
290	SENILE DEMENTIA, SIMPLE TYPE	233	77	156	227	74	153	3	2	1	3	1	2
291	DELIRIUM TREMENS	7	7	0	7	7	0	0	0	0	0	0	0
294	KORSAKOV'S PSYCHOSIS, SYNDROME (NONALCOHO)	1	1	0	1	1	0	0	0	0	0	0	0
295-299	OTHER PSYCHOSES	163	48	115	161	48	113	1	0	1	1	0	1
295	SIMPLE TYPE SCHIZOPHRENIC PSYCHOSES	16	6	10	16	6	10	0	0	0	0	0	0
296	MANIC-DEPRESSIVE PSYCHOSIS, MANIC TYPE	6	1	5	6	1	5	0	0	0	0	0	0
298	DEPRESSIVE TYPE NONORGANIC PSYCHOSES	141	41	100	139	41	98	1	0	1	1	0	1
300-316	NEUROSES, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC DISORDERS	204	112	92	187	100	87	17	12	5	0	0	0
300	ANXIETY STATES	3	1	2	3	1	2	0	0	0	0	0	0
303	ALCOHOL DEPENDENCE SYNDROME	60	46	14	55	42	13	5	4	1	0	0	0
304	MORPHINE TYPE DRUG DEPENDENCE	18	14	4	16	13	3	2	1	1	0	0	0
305	ALCOHOL NONDEPENDENT ABUSE OF DRUGS	27	20	7	20	15	5	7	5	2	0	0	0
306	MUSCULOSKELETAL PHYSIO MALFUNCTION	1	1	0	1	1	0	0	0	0	0	0	0
307	STAMMERING AND STUTTERING	3	1	2	3	1	2	0	0	0	0	0	0
310	FRONTAL LOBE SYNDROME	75	24	51	72	22	50	3	2	1	0	0	0
311	DEPRESSIVE DISORDER NEC	16	4	12	16	4	12	0	0	0	0	0	0
315	SPECIFIC READING RETARDATION	1	1	0	1	1	0	0	0	0	0	0	0
317-319	MENTAL RETARDATION	6	4	2	6	4	2	0	0	0	0	0	0
318	MODERATE MENTAL RETARDATION	1	1	0	1	1	0	0	0	0	0	0	0
319	UNSPECIFIED MENTAL RETARDATION	5	3	2	5	3	2	0	0	0	0	0	0
*320-326	VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS	1175	500	675	1140	482	658	27	15	12	8	3	5
320-326	INFLAMMATORY DISEASES OF THE CENTRAL NERVOUS SYSTEM	38	18	20	36	17	19	1	1	0	1	0	1
320	HAEMOPHILUS MENINGITIS	14	6	8	13	5	8	1	1	0	0	0	0
322	NONPYOGENIC MENINGITIS	7	6	1	7	6	1	0	0	0	0	0	0
323	OTHER ENCEPHALITIS DUE TO INFECTION	8	2	6	7	2	5	0	0	0	1	0	1
324	INTERCRANIAL ABSCESS	9	4	5	9	4	5	0	0	0	0	0	0
330-337	HEREDITARY AND DEGENERATIVE DISEASES OF NERVOUS SYSTEM	844	351	493	829	343	486	12	6	6	3	2	1
330	LEUCODYSTROPHY	3	2	1	3	2	1	0	0	0	0	0	0
331	ALZHEIMERS DISEASE	508	170	338	498	164	334	9	5	4	1	1	0
332	PARALYSIS AGITANS	209	118	91	206	117	89	2	1	1	1	0	1
333	OTH DEGEN DISEASES OF THE BASAL GANGLIA	19	9	10	18	9	9	1	0	1	0	0	0
334	FRIEDREICH'S ATAXIA	7	6	1	7	6	1	0	0	0	0	0	0
335	WERDNIG-HOFFMANN DISEASE	92	41	51	91	40	51	0	0	0	1	1	0
336	SYRINGOMYELIA AND SYRINGOBULBIA	6	5	1	6	5	1	0	0	0	0	0	0
340-349	OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM	237	101	136	219	92	127	14	8	6	4	1	3
340	MULTIPLE SCLEROSIS	60	22	38	58	22	36	2	0	2	0	0	0
341	NEUROMYELITIS OPTICA	2	2	0	2	2	0	0	0	0	0	0	0
342	FLACCID HEMIPLEGIA	11	2	9	11	2	9	0	0	0	0	0	0
343	DIPLEGIC	12	6	6	11	5	6	1	1	0	0	0	0
344	QUADRIPLEGIA	12	7	5	12	7	5	0	0	0	0	0	0
345	GENERALIZED NONCONVULSIVE EPILEPSY	33	14	19	28	11	17	5	3	2	0	0	0
346	CLASSICAL MIGRAINE	1	1	0	1	1	0	0	0	0	0	0	0

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ICD. LIST NUMBER	CAUSE OF DEATH VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS (CONTINUED)	T O T A L S			W H I T E			B L A C K			O T H E R		
		TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM
348	CEREBRAL CYSTS	102	47	55	93	42	51				3	1	2
349	REACTION TO SPINAL OR LUMBAR PUNCTURE	4	0	4	3	0	3				1	0	1
350-359	DISORDERS OF PERIPHERAL NERVOUS SYSTEM	54	28	26	54	28	26				0	0	0
355	LESION OF SCIATIC NERVE	2	1	1	2	1	1				0	0	0
356	HEREDITARY PERIPHEAL NEUROPATHY	28	14	14	28	14	14				0	0	0
357	ACUTE INFECTIVE POLYNEURITIS	3	2	1	3	2	1				0	0	0
358	MYASTHENIA GRAVIS	5	1	4	5	1	4				0	0	0
359	CONGENITAL HEREDITARY MUSCULAR DYSTROPHY	16	10	6	16	10	6				0	0	0
360-379	DISORDERS OF EYE AND ADNEXA	2	2	0	2	2	0				0	0	0
369	BLINDNESS BOTH EYES	1	1	0	1	1	0				0	0	0
376	ACUTE INFLAMMATION OF ORBIT	1	1	0	1	1	0				0	0	0
390 459	VII. DISEASES OF THE CIRCULATORY SYSTEM	22791	10362	12429	22118	10020	12098	589	292	297	84	50	34
390-392	ACUTE RHEUMATIC FEVER	2	0	2	2	0	2				0	0	0
390	RHEUM FEVER WO MENT OF HEART INVOLVEMENT	1	0	1	1	0	1				0	0	0
391	ACUTE RHEUMATIC PERICARDITIS	1	0	1	1	0	1				0	0	0
393-398	CHRONIC RHEUMATIC HEART DISEASE	168	35	133	165	33	132	3	2	1	0	0	0
394	MITRAL STENOSIS	71	11	60	70	10	60	1	1	0	0	0	0
395	RHEUMATIC AORTIC STENOSIS	4	1	3	4	1	3	0	0	0	0	0	0
396	DISEASES OF MITRAL AND AORTIC VALVES	14	4	10	14	4	10	0	0	0	0	0	0
397	DISEASES OF TRICUSPID VALVE	14	5	9	14	5	9	0	0	0	0	0	0
398	RHEUMATIC MYOCARDITIS	65	14	51	63	13	50	2	1	1	0	0	0
401-405	HYPERTENSIVE DISEASE	625	254	371	586	235	351	34	17	17	5	2	3
401	ESSENTIAL HYPERTENSION, MALIGNANT	114	41	73	106	36	70	6	5	1	2	0	2
402	HYPERTENSIVE HEART DISEASE, MALIGNANT	385	159	226	367	152	215	17	6	11	1	1	0
403	HYPERTENSIVE RENAL DISEASE, MALIGNANT	84	36	48	78	32	46	5	4	1	1	0	1
404	HYPER HEART AND RENAL, MALIGNANT	42	18	24	35	15	20	6	2	4	1	1	0
410-414	ISCHEMIC HEART DISEASE	12274	5937	6337	12014	5798	6216	223	114	109	37	25	12
410	ACUTE MYOCARDIAL INFARCTION	5967	2991	2976	5842	2927	2915	100	50	50	25	14	11
411	OTH ACUTE & SUBACUTE FORMS OF ISCH HT DX	10	5	5	10	5	5	0	0	0	0	0	0
412	OLD MYOCARDIAL INFARCTION	31	14	17	31	14	17	0	0	0	0	0	0
413	ANGINA PECTORIS	37	10	27	37	10	27	0	0	0	0	0	0
414	CORONARY ATHEROSCLEROSIS	6229	2917	3312	6094	2842	3252	123	64	59	12	11	1
415-417	DISEASES OF PULMONARY CIRCULATION	259	105	154	242	99	143	17	6	11	0	0	0
415	ACUTE COR PULMONALE	201	87	114	187	81	106	14	6	8	0	0	0
416	PRIMARY PULMONARY HYPERTENSION	57	18	39	54	18	36	3	0	3	0	0	0
417	ARTERIOVENOUS FISTULA OF PULMONARY VESS	1	0	1	1	0	1	0	0	0	0	0	0
420-429	OTHER FORMS OF HEART DISEASE	4669	2144	2525	4478	2037	2441	171	96	75	20	11	9
420	PERICARDITIS IN DX CLASSIFIED ELSEWHERE	1	1	0	1	1	0	0	0	0	0	0	0
421	ACUTE & SUBACUTE BACTERIAL ENDOCARDITIS	26	15	11	20	13	7	6	2	4	0	0	0
423	HAEMOPERICARDIUM	5	3	2	4	2	2	1	1	0	0	0	0
424	MITRAL VALVE DISORDERS	361	141	220	355	138	217	6	3	3	0	0	0
425	ENDOMYOCARDIAL FIBROSIS	418	268	150	394	253	141	24	15	9	0	0	0
426	ATRIOVENTRICULAR BLOCK COMPLETE	45	21	24	44	21	23	1	0	1	0	0	0
427	PAROXYSMAL SUPRAVENTRICULAR TACHYCARDIA	1407	641	766	1362	618	744	35	18	17	10	5	5
428	CONGESTIVE HEART FAILURE	1084	396	688	1057	380	677	26	15	11	1	1	0

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ICD. LIST NUMBER	CAUSE OF DEATH VII. DISEASES OF THE CIRCULATORY SYSTEM (CONTINUED)	T O T A L S			W H I T E			B L A C K			O T H E R		
		TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM
429	MYOCARDITIS UNSPECIFIED	1322	658	664	1241	611	630	72	42	30	9	5	4
430-438	CEREBROVASCULAR DISEASE	3430	1236	2194	3309	1186	2123	101	40	61	20	10	10
430	SUBARACHOID HEMORRHAGE	181	74	107	170	68	102	7	3	4	4	3	1
431	INTRACEREBRAL HAEMORRHAGE	418	179	239	392	163	229	20	13	7	6	3	3
432	NONTRAUMATIC EXTRADURAL HAEMORRHAGE	78	36	42	68	33	35	8	3	5	2	0	2
433	BASILAR ARTERY	24	15	9	23	14	9	1	1	0	0	0	0
434	CEREBRAL THROMBOSIS	543	186	357	534	183	351	8	2	6	1	1	0
435	TRANSIENT CEREBRAL ISCHAEMIA	6	0	6	6	0	6	0	0	0	0	0	0
436	ACUTE BUT ILL-DEF CEREBROVASCULAR DX	1663	586	1077	1615	571	1044	44	13	31	4	2	2
437	CEREBRAL ATHEROSCLEROSIS	269	79	190	260	75	185	7	3	4	2	1	1
438	LATE EFFECTS OF CEREBROVASCULAR DISEASE	248	81	167	241	79	162	6	2	4	1	0	1
440-448	DISEASES OF ARTERIES, ARTERIOLES, AND CAPILLARIES	1259	601	658	1222	585	637	35	14	21	2	2	0
440	OF AORTA	542	204	338	528	198	330	13	5	8	1	1	0
441	DISSECTING ANEURYSM	449	281	168	441	277	164	7	3	4	1	1	0
442	OF ARTERY OF UPPER EXTREMITY	12	9	3	10	8	2	2	1	1	0	0	0
443	RAYNAUD'S SYNDROME	163	65	98	153	61	92	10	4	6	0	0	0
444	OF ABDOMINAL AORTA	41	15	26	41	15	26	0	0	0	0	0	0
446	POLYARTERITIS NODOSA	22	10	12	20	9	11	2	1	1	0	0	0
447	ARTERIOVENOUS FISTULA ACQUIRED	28	16	12	27	16	11	1	0	1	0	0	0
448	HEREDITARY HAEMORRHAGIC TELANGIECTASIA	2	1	1	2	1	1	0	0	0	0	0	0
451-459	DISEASES OF VEINS AND LYMPHATICS, AND OTHER DIS. OF CIRCULATORY SYS.	105	50	55	100	47	53	5	3	2	0	0	0
451	SUPERFICIAL VESSELS OF LOWER EXTREMITIES	22	8	14	21	7	14	1	1	0	0	0	0
453	BUDD-CHIARI SYNDROME	6	2	4	6	2	4	0	0	0	0	0	0
454	VARICOSE VEINS WITH ULCER	10	7	3	10	7	3	0	0	0	0	0	0
456	OESOPHAGEAL VARICIS WITH BLEEDING	10	8	2	9	7	2	1	1	0	0	0	0
457	POSTHAECTOMY LYMPHOEDEMA SYNDROME	2	1	1	2	1	1	0	0	0	0	0	0
458	ORTHOSTATIC HYPOTENSION	30	13	17	28	13	15	2	0	2	0	0	0
459	HAEMORRHAGE UNSPECIFIED	25	11	14	24	10	14	1	1	0	0	0	0
*460-466	VIII. DISEASES OF THE RESPIRATORY SYSTEM	4797	2332	2465	4657	2253	2404	122	68	54	18	11	7
460-466	ACUTE RESPIRATORY INFECTIONS	21	8	13	20	8	12	1	0	1	0	0	0
462	ACUTE PHARYNGITIS	1	0	1	1	0	1	0	0	0	0	0	0
465	ACUTE LARNGOPHARYNGITIS	5	1	4	5	1	4	0	0	0	0	0	0
466	ACUTE BRONCHITIS	15	7	8	14	7	7	1	0	1	0	0	0
470-478	OTHER DISEASES UPPER RESPIRATORY TRACT	10	7	3	10	7	3	0	0	0	0	0	0
473	MAXILLARY	2	1	1	2	1	1	0	0	0	0	0	0
474	CHRONIC TONSILLITIS	1	0	1	1	0	1	0	0	0	0	0	0
478	HYPERTROPHY OF NASAL TURBINATES	7	6	1	7	6	1	0	0	0	0	0	0
480-487	PNEUMONIA AND INFLUENZA	2205	982	1223	2136	949	1187	61	28	33	8	5	3
480	PNEUMONIA DUE TO ADENOVIRUS	6	1	5	6	1	5	0	0	0	0	0	0
481	PNEUMOCOCCAL PNEUMONIA	63	30	33	56	27	29	7	3	4	0	0	0
482	PNEUMONIA DUE TO KLEBSIELLA PNEUMONIAE	60	37	23	58	35	23	2	2	0	0	0	0
483	PNEUMONIA DUE TO OTH SPECIFIED ORGANISM	3	1	2	3	1	2	0	0	0	0	0	0
485	BRONCHOPNEUMONIA ORGANISM UNSPECIFIED	129	64	65	122	60	62	7	4	3	0	0	0
486	PNEUMONIA ORGANISM UNSPECIFIED	1918	839	1079	1866	816	1050	44	18	26	8	5	3

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ICD. LIST NUMBER	CAUSE OF DEATH VIII. DISEASES OF THE RESPIRATORY SYSTEM (CONTINUE0)	T O T A L S		W H I T E		B L A C K		O T H E R		
		TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM
487	INFLUENZA WITH PNEUMONIA	26	10	16	25	9	16	1	1	0
490-496	CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS	1893	996	897	1853	969	884	35	25	10
490	BRONCHITIS NOT SPEC AS ACUTE OR CHRONIC	20	8	12	19	8	11	1	0	1
491	SIMPLE CHRONIC BRONCHITIS	81	44	37	80	44	36	1	0	1
492	EMPHYSEMA	331	186	145	328	184	144	2	2	0
493	EXTRINSIC ASTHMA	124	41	83	111	34	77	11	6	5
494	BRONCHIECTASIS	15	4	11	15	4	11	0	0	0
496	CHRONIC AIRWAYS OBSTRUCTION NEC	1322	713	609	1300	695	605	20	17	3
500-508	PNEUMOCONIOSES AND OTHER LUNG DISEASES DUE TO EXTERNAL AGENTS	243	117	126	233	112	121	8	3	5
500	COALWORKERS' PNEUMOCONIOSIS	1	1	0	1	1	0	0	0	0
501	ASBESTOSIS	9	9	0	9	9	0	0	0	0
502	PNEUMOCONIOSIS DUE TO OTH SILICA,SILICAT	2	1	1	2	1	1	0	0	0
503	PNEUMOCONIOSIS DUE TO OTH INORGANIC DUST	1	1	0	1	1	0	0	0	0
505	PNEUMOCONIOSIS,UNSPECIFIED	1	1	0	1	1	0	0	0	0
507	PNEUMONITIS DUE TO INHAL FOOD OR VOMIT	227	104	123	217	99	118	8	3	5
508	ACUTE PULMONARY MANIFEST DUE TO RADIATIO	2	0	2	2	0	2	0	0	0
510-519	OTHER DISEASES OF RESPIRATORY SYSTEM	425	222	203	405	208	197	17	12	5
510	EMPYEMA WITH FISTULA	17	10	7	14	8	6	3	2	1
511	PLEURISY WITHOUT MENT EFFUSION OR CUR TB	28	9	19	28	9	19	0	0	0
512	PNEUMOTHORAX	19	11	8	18	10	8	1	1	0
513	ABSCESS OF LUNG	9	6	3	8	5	3	1	1	0
514	PULMONARY CONGESTION AND HYPOSTASIS	28	11	17	26	9	17	2	2	0
515	POSTINFLAMMATORY PLUMONARY FIBROSIS	113	64	49	111	63	48	0	0	0
516	PULMONARY ALVEOLAR PROTEINOSIS	11	5	6	11	5	6	0	0	0
518	PULMONARY COLLAPSE-DISEASES OF LUNG	173	91	82	163	84	79	9	6	3
519	TRACHEOSTOMY MALFUNCTION	27	15	12	26	15	11	1	0	1
520 579	IX. DISEASES OF THE DIGESTIVE SYSTEM	2267	1131	1136	2182	1086	1096	77	41	36
520-529	DISEASES OF ORAL CAVITY, SALIVARY GLANDS AND JAWS	4	2	2	4	2	2	0	0	0
526	DEVELOPMENTAL ODONTOGENIC CYSTS	1	1	0	1	1	0	0	0	0
527	ATROPHY-DISEASES OF SALIVARY GLANDS	3	1	2	3	1	2	0	0	0
530-537	DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM	216	106	110	211	104	107	4	2	2
530	ACHALASIA AND CARDIOSPASH DIS OESOPHAGUS	57	25	32	57	25	32	0	0	0
531	ACUTE GASTRIC ULCER WITH HEMORRHAGE	37	18	19	36	17	19	1	1	0
532	ACUTE DUO ULCER WITH HEMORRHAGE	44	24	20	43	24	19	0	0	0
533	ACUTE PEPTIC ULCER WITH HEMORRHAGE	44	21	23	43	20	23	1	1	0
534	ACUTE GASTROJEJUNAL ULCER W HEM	1	1	0	1	1	0	0	0	0
535	ACUTE GASTRITIS	20	8	12	19	8	11	1	0	1
537	ADULT HYPERTROPHIC PYLORIC STENOSIS	13	9	4	12	9	3	1	0	1
540-543	APPENDICITIS	11	5	6	10	4	6	1	1	0
540	APPENDICITIS WITH GEN PERITONITIS	9	4	5	8	3	5	1	1	0
541	APPENDICITIS,UNQUALIFIED	2	1	1	2	1	1	0	0	0
550-553	HERNIA OF ABDOMINAL CAVITY	56	20	36	54	18	36	2	2	0



TABLE C-15 (CONTINUED)

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ICD. LIST NUMBER	CAUSE OF DEATH IX. DISEASES OF THE DIGESTIVE SYSTEM (CONTINUED)	T O T A L S			W H I T E			B L A C K			O T H E R		
		TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM
550	INGUINAL HERNIA, WITH GANGRENE	2	1	1	2	1	1	0	0	0	0	0	0
551	FEMORAL, WITH GANGRENE	10	4	6	10	4	6	0	0	0	0	0	0
552	FEMORAL, WITH OBSTRUCTION	23	7	16	23	7	16	0	0	0	0	0	0
553	FEMORAL WITHOUT MEN OF GANG OR OBSTRUCTION	21	8	13	19	6	13	2	2	0	0	0	0
555-558	NONINFECTIVE ENTERITIS AND COLITIS	265	95	170	258	91	167	7	4	3	0	0	0
555	REGIONAL ENTERITIS, SMALL INTESTINE	21	7	14	21	7	14	0	0	0	0	0	0
556	IDIOPATHIC PROCTOCOLITIS	12	8	4	12	8	4	0	0	0	0	0	0
557	ACUTE VASCULAR INSUFFICIENCY OF INTESTIN	209	74	135	204	71	133	5	3	2	0	0	0
558	OTH NONINFECTIVE GASTROENTERITIS, COLITIS	23	6	17	21	5	16	2	1	1	0	0	0
560-569	OTHER DISEASES OF INTESTINE AND PERITONEUM	302	111	191	295	109	186	6	2	4	1	0	1
560	INTUSSUSCEPTION	105	42	63	103	41	62	1	1	0	1	0	1
562	DIVERTICULA SMALL INTESTINE	71	21	50	71	21	50	0	0	0	0	0	0
564	CONSTIPATION	12	6	6	12	6	6	0	0	0	0	0	0
567	PERITONITIS INFECTIOUS DIS CLASSIFIED EL	60	25	35	57	25	32	3	0	3	0	0	0
569	ANAL AND RECTAL POLYP	54	17	37	52	16	36	2	1	1	0	0	0
570-579	OTHER DISEASES OF DIGESTIVE SYSTEM	1413	792	621	1350	758	592	57	30	27	6	4	2
570	ACUTE, SUBACUTE NECROSIS OF LIVER	12	9	3	10	8	2	2	1	1	0	0	0
571	ALCOHOLIC FATTY LIVER	741	453	288	708	435	273	32	18	14	1	0	1
572	ABSCCESS OF LIVER	151	95	56	142	90	52	7	3	4	2	2	0
573	CHRONIC PASSIVE CONGESTION OF LIVER	51	28	23	46	26	20	3	1	2	1	1	0
574	CALCULUS GALLBLADDER WH ACUTE CHOLECYSTI	29	11	18	29	11	18	0	0	0	0	0	0
575	ACUTE CHOLECYSTITIS	51	16	35	51	16	35	0	0	0	0	0	0
576	POSTCHOLECYSTECTOMY SYNDROME	29	10	19	29	10	19	0	0	0	0	0	0
577	ACUTE PANCREATITIS	66	45	21	61	43	18	5	2	3	0	0	0
578	HAEMATEMESIS	281	125	156	272	119	153	8	5	3	1	1	0
579	COELIAC DISEASE	2	0	2	2	0	2	0	0	0	0	0	0
*580-629	X. DISEASES OF THE GENITOURINARY SYSTEM	1094	478	616	1037	447	590	49	27	22	8	4	4
580-589	NEPHRITIS AND NEPHROSIS	653	332	321	615	311	304	32	19	13	6	2	4
580	WH LESION OF PROLIFERATIVE GLOMERULONEPH	1	1	0	1	1	0	0	0	0	0	0	0
581	WH LESION OF PROLIFERATIVE GLOMERULONEPH	8	3	5	8	3	5	0	0	0	0	0	0
582	WH LESION OF PROLIFERATIVE GLOMERULONEPH	18	13	5	13	9	4	5	4	1	0	0	0
583	WH LESION OF PROLIFERATIVE GLOMERULONEPH	7	3	4	5	2	3	2	1	1	0	0	0
584	WH LESION OF TUBULAR NECROSIS	109	53	56	107	52	55	2	1	1	0	0	0
585	CHRONIC RENAL FAILURE	149	74	75	139	69	70	6	3	3	4	2	2
586	RENAL FAILURE, UNSPECIFIED	358	184	174	339	174	165	17	10	7	2	0	2
587	RENAL SCLEROSIS UNSPECIFIED	2	1	1	2	1	1	0	0	0	0	0	0
588	RENAL OSTEODYSSTROPHY	1	0	1	1	0	1	0	0	0	0	0	0
590-599	OTHER DISEASES OF URINARY SYSTEM	419	133	286	402	123	279	15	8	7	2	2	0
590	CHRONIC PYELONEPHRITIS & CHRONIC PYONEPH	23	8	15	22	7	15	1	1	0	0	0	0
591	HYDRONEPHROSIS	3	2	1	2	1	1	1	1	0	0	0	0
592	CALCULUS OF KIDNEY	7	3	4	7	3	4	0	0	0	0	0	0
593	NEPHROPTOSIS	63	30	33	57	25	32	5	4	1	1	1	0
595	ACUTE CYSTITIS	1	0	1	1	0	1	0	0	0	0	0	0
596	BLADDER-NECK OBSTRUCTION	5	1	4	5	1	4	0	0	0	0	0	0
598	INFECTIVE URETHRAL STRICTURE	1	1	0	1	1	0	0	0	0	0	0	0

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ICD. LIST NUMBER	CAUSE OF DEATH X. DISEASES OF THE GENITOURINARY SYSTEM (CONTINUED)	T O T A L S			W H I T E			B L A C K			O T H E R		
		TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM
599	URINARY TRACT INFECTION,SITE NOT SPEC	316	88	228	307	85	222	8	2	6	1	1	0
600-608	DISEASES OF MALE GENITAL ORGANS	13	13	0	13	13	0	0	0	0	0	0	0
600	HYPERPLASIA OF PROSTATE	8	8	0	8	8	0	0	0	0	0	0	0
602	CALCULUS OF PROSTATE	2	2	0	2	2	0	0	0	0	0	0	0
607	LEUKOPLAKIA OF PENIS	1	1	0	1	1	0	0	0	0	0	0	0
608	SEMINAL VESICULITIS	2	2	0	2	2	0	0	0	0	0	0	0
610-611	DISORDERS OF BREAST	2	0	2	1	0	1	1	0	1	0	0	0
611	INFLAMMATORY DISEASE OF BREAST	2	0	2	1	0	1	1	0	1	0	0	0
614-616	INFLAMMATORY DISEASE OF FEMALE PELVIC ORGANS	4	0	4	4	0	4	0	0	0	0	0	0
614	ACUTE SALPINGITIS AND OOPHORITIS	2	0	2	2	0	2	0	0	0	0	0	0
615	ACUTE INFLAM DX UTERUS EXCEPT CERVIX	2	0	2	2	0	2	0	0	0	0	0	0
617-629	OTHER DISORDERS OF FEMALE GENITAL TRACT	3	0	3	2	0	2	1	0	1	0	0	0
618	PROLAPSE VAGINAL WALLS W/O UTERINE PROLA	1	0	1	0	0	0	1	0	1	0	0	0
619	URINARY-GENITAL TRACT FISTULAE FEMALE	1	0	1	1	0	1	0	0	0	0	0	0
623	DYSPLASIA OF VAGINA	1	0	1	1	0	1	0	0	0	0	0	0
*630 676	XI. COMPLICATIONS OF PREGNANCY, CHILD BIRTH, AND PUERPERIUM	5	0	5	3	0	3	2	0	2	0	0	0
640-648	COMPLICATIONS MAINLY RELATED TO PREGNANCY	1	0	1	1	0	1	0	0	0	0	0	0
648	DIABETES MELLITUS COMPLICATING PREGNANCY	1	0	1	1	0	1	0	0	0	0	0	0
660-669	COMPLICATIONS MAINLY DURING LABOUR AND DELIVERY	3	0	3	1	0	1	2	0	2	0	0	0
665	RUPTURE OF UTERUS BEFORE ONSET OF LABOUR	1	0	1	1	0	1	0	0	0	0	0	0
668	PULMONARY COMPLICATIONS	1	0	1	0	0	0	1	0	1	0	0	0
669	MATERNAL DISTRESS	1	0	1	0	0	0	1	0	1	0	0	0
670-676	COMPLICATIONS OF THE PUERPERIUM	1	0	1	1	0	1	0	0	0	0	0	0
673	OBSTETRICAL AIR EMBOLISM	1	0	1	1	0	1	0	0	0	0	0	0
*680 709	XII. DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE	93	31	62	88	29	59	5	2	3	0	0	0
680-686	INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE	25	8	17	23	7	16	2	1	1	0	0	0
682	FACE	23	8	15	21	7	14	2	1	1	0	0	0
686	PYODERMA	2	0	2	2	0	2	0	0	0	0	0	0
690-698	OTHER INFLAMMATORY CONDITIONS OF SKIN AND SUBCUTANEOUS TISSUE	13	3	10	12	3	9	1	0	1	0	0	0
692	CONTACT DERMATITIS DUE TO DETERGENTS	1	0	1	1	0	1	0	0	0	0	0	0
693	DERMATITIS DUE TO DRUGS & MEDICAMENTS	1	1	0	1	1	0	0	0	0	0	0	0
694	DERMATITIS HERPETIFORMIS	9	2	7	8	2	6	1	0	1	0	0	0
695	TOXIC ERYTHEMA	1	0	1	1	0	1	0	0	0	0	0	0
696	PSORIASIC ARTHROPATHY	1	0	1	1	0	1	0	0	0	0	0	0
700-709	OTHER DISEASES OF SKIN AND SUBCUTANEOUS TISSUE	55	20	35	53	19	34	2	1	1	0	0	0
707	DECUBITUS ULCER	55	20	35	53	19	34	2	1	1	0	0	0

TABLE C-15 (CONTINUED)

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ICD. LIST NUMBER	CAUSE OF DEATH	T O T A L S			W H I T E			B L A C K			O T H E R		
		TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM
*710-739	XIII. DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE	185	63	122	170	56	114	12	6	6	3	1	2
710-719	ARTHRITIS AND RELATED DISORDERS	114	30	84	104	28	76	8	2	6	2	0	2
710	SYSTEMIC LUPUS ERYTHEMATOSUS	58	20	38	49	18	31	7	2	5	2	0	2
711	PYOGENIC ARTHRITIS	2	0	2	1	0	1	1	0	1	0	0	0
714	RHEUMATOID ARTHRITIS	43	9	34	43	9	34	0	0	0	0	0	0
715	GENERAL OSTEOARTHRITIS & ALLIED DISORD	8	1	7	8	1	7	0	0	0	0	0	0
716	KASCHIN-BECK DISEASE	3	0	3	3	0	3	0	0	0	0	0	0
720-724	DORSOPATHIES	6	5	1	5	4	1	0	0	0	1	1	0
720	ANKYLOSING SPONDYLITIS	2	2	0	2	2	0	0	0	0	0	0	0
721	CERVICAL SPONDYLOSIS WH OUT MYELOPATHY	4	3	1	3	2	1	0	0	0	1	1	0
725-729	RHEUMATISM, EXCLUDING THE BACK	15	11	4	14	10	4	1	1	0	0	0	0
726	ADHESIVE CAPSULITIS OF SHOULDER	2	2	0	2	2	0	0	0	0	0	0	0
728	INFECTIVE MYOSITIS	7	6	1	6	5	1	1	1	0	0	0	0
729	RHEUMATISM, UNSPECIFIED, AND FIBROSITIS	6	3	3	6	3	3	0	0	0	0	0	0
730-739	OSTEOPATHIES CHONDROPATHIES & ACQUIRED MUSCULOSKELETAL DEFORMITIES	50	17	33	47	14	33	3	3	0	0	0	0
730	ACUTE OSTEOMYELITIS	19	11	8	16	8	8	3	3	0	0	0	0
731	OSTEITIS DEFORMIS WHOUT MEN BONE TUMOUR	7	3	4	7	3	4	0	0	0	0	0	0
733	OSTEOPOROSIS	12	2	10	12	2	10	0	0	0	0	0	0
737	ADOLESCENT POSTURAL KYPHOSIS	12	1	11	12	1	11	0	0	0	0	0	0
*740-759	XIV. CONGENITAL ANOMALIES	240	142	98	220	128	92	16	12	4	4	2	2
740	ANENCEPHALUS	6	1	5	6	1	5	0	0	0	0	0	0
741	SPINA BIFIDA WITH HYDROCEPHALUS	5	4	1	5	4	1	0	0	0	0	0	0
742	ENCEPHALOCELE	22	14	8	21	13	8	1	1	0	0	0	0
743	ANOPHTHALMOS	1	0	1	1	0	1	0	0	0	0	0	0
745	COMMON TRUNCUS	28	13	15	25	12	13	2	1	1	1	0	1
746	ANOMALIES OF PULMONARY VALVE	61	40	21	57	36	21	4	4	0	0	0	0
747	PATENT DUCTS ARTERIOSUS	14	8	6	13	7	6	1	1	0	0	0	0
748	CHOANAL ATRESIA	24	14	10	22	12	10	2	2	0	0	0	0
750	TONGUE TIE	2	1	1	2	1	1	0	0	0	0	0	0
751	NECKEL'S DIVERTICULUM	4	3	1	3	2	1	1	1	0	0	0	0
753	CONG ANOMAL RENAL AGENCIES & DYSGENESIS	14	8	6	13	8	5	0	0	0	1	0	1
755	POLYDACTYLY	1	0	1	1	0	1	0	0	0	0	0	0
756	ANOMALIES OF SKULL AND FACE BONE	9	9	0	6	6	0	1	1	0	2	2	0
757	HEREDITARY OEDEMA OF LEGS	1	0	1	1	0	1	0	0	0	0	0	0
758	DOWN'S SYNDROME	29	17	12	26	16	10	3	1	2	0	0	0
759	ANOMALIES OF SPLEEN	19	10	9	18	10	8	1	0	1	0	0	0

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ICD, LIST NUMBER	CAUSE OF DEATH	TOTALS			WHITE			BLACK			OTHER		
		TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM
*760	779 XV. CERTAIN CONDITIONS ORIGINATING IN PERINATAL PERIOD	374	206	168	279	157	122	88	46	42	7	3	4
760	MATERNAL HYPERTENSIVE DISORDERS	1	1	0	1	1	0	0	0	0	0	0	0
761	INCOMPETENT CERVIX	36	22	14	27	16	11	9	6	3	0	0	0
762	PLACENTA PRAEVI	33	16	17	26	15	11	7	1	6	0	0	0
763	BREECH DELIVERY AND EXTRACTION	1	0	1	0	0	0	1	0	1	0	0	0
765	EXTREME IMMATUREITY	90	52	38	58	32	26	30	19	11	2	1	1
767	SUBDURAL AND CEREBRAL HAEMORRHAGE	3	2	1	2	1	1	1	1	0	0	0	0
768	FETAL DISTRESS NOT FOR MC DATA	12	8	4	7	5	2	4	3	1	1	0	1
769	RESPIRATORY DISTRESS SYNDROME	61	38	23	50	30	20	9	6	3	2	2	0
770	CONGENITAL PNEUMONIA	74	33	41	57	30	27	16	3	13	1	0	1
771	CONGENITAL RUBELLA	18	6	12	17	6	11	0	0	0	1	0	1
772	FETAL BLOOD LOSS	3	2	1	2	1	1	1	1	0	0	0	0
773	HAEMOLYTIC DIS DUE TO RH ISOIMMUNIZATION	1	0	1	1	0	1	0	0	0	0	0	0
776	HAEMORRHAGIC DISEASE OF NEWBORN	2	2	0	1	1	0	1	1	0	0	0	0
777	OTHER MECONIUM OBSTRUCTION	6	3	3	5	3	2	1	0	1	0	0	0
778	HYDROPS FETALIS NOT DUE ISOIMMUNIZATION	2	1	1	2	1	1	0	0	0	0	0	0
779	CONVULSIONS IN NEWBORN	31	20	11	23	15	8	8	5	3	0	0	0
*780	799 XVI. SYMPTOMS SIGNS, AND ILL-DEFINED CONDITIONS	491	281	210	452	257	195	34	21	13	5	3	2
780-789	SYMPTOMS	57	31	26	51	28	23	5	2	3	1	1	0
780	COMA & STUPOR	19	11	8	13	8	5	5	2	3	1	1	0
782	DISTURBANCE OF SKIN SENSATION	2	0	2	2	0	2	0	0	0	0	0	0
784	HEADACHE	1	0	1	1	0	1	0	0	0	0	0	0
785	TACHYCARDIA, UNSPECIFIED	25	15	10	25	15	10	0	0	0	0	0	0
786	DYSPONOEA AND RESPIRATORY ABNORMALITIES	3	3	0	3	3	0	0	0	0	0	0	0
789	ABDOMINAL PAINS	7	2	5	7	2	5	0	0	0	0	0	0
790-796	NONSPECIFIC ABNORMAL FINDINGS	1	0	1	1	0	1	0	0	0	0	0	0
790	ABNORMALITY OF RED BLOOD CELLS	1	0	1	1	0	1	0	0	0	0	0	0
797-799	ILL-DEFINED AND UNKNOWN CAUSES OF MORBIDITY AND MORTALITY	433	250	183	400	229	171	29	19	10	4	2	2
797	SENILITY W/O MENT. PSYCHOSIS	7	1	6	7	1	6	0	0	0	0	0	0
798	SUDDEN INFANT DEATH SYNDROME	90	54	36	74	46	28	13	7	6	3	1	2
799	ASPHYXIA	336	195	141	319	182	137	16	12	4	1	1	0
*800	999 XVII. EXTERNAL CAUSES OF INJURY AND POISONING	2572	1788	784	2355	1625	730	183	142	41	34	21	13
800-807	RAILWAY ACCIDENTS	12	12	0	12	12	0	0	0	0	0	0	0
805	HIT BY ROLLING STOCK-EMPLOYEE	12	12	0	12	12	0	0	0	0	0	0	0
810-819	MOTOR VEHICLE TRAFFIC ACCIDENTS	735	507	228	700	483	217	24	16	8	11	8	3
810	M/V COLLISION W/TRAIN, DRIVER	4	2	2	4	2	2	0	0	0	0	0	0
812	M/V W/STOPPED M/V - DRIVER	245	153	92	235	147	88	8	5	3	2	1	1
813	MTR/VEH W/OTH VEH - DR NO CYCLE	12	11	1	11	10	1	1	1	0	0	0	0
814	MTR/VEH W/PEDISTRIAN - DR NO-CYCLE	154	95	59	145	87	58	5	4	1	4	4	0
815	M/V HWY COLLISION - DRIVER	224	177	47	215	170	45	4	4	0	5	3	2
816	M/V LOST CONTROL W/O COLL - DRIVER	57	42	15	53	41	12	4	1	3	0	0	0
818	OTH NO-COLL MTR/VEH - DRIVER	14	10	4	13	9	4	1	1	1	0	0	0
819	M/V ACC UNSPEC - DRIVER	25	17	8	24	17	7	1	0	1	0	0	0
820-825	MOTOR VEHICLE NONTRAFFIC ACCIDENTS	9	8	1	9	8	1	0	0	0	0	0	0

TABLE C-15 (CONTINUED)

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ICD. LIST NUMBER	CAUSE OF DEATH XVII. EXTERNAL CAUSES OF INJURY AND POISONING (CONTINUED)	T O T A L S		W H I T E		B L A C K		O T H E R		
		TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE	FEM
821	NO HWY OTH/MTR/VEH - DR/OTH/THAN/MTR/CYC	5	4	1	5	4	1	0	0	0
823	O/MTR/VEH-NO-HWY-FIX/OBJ - DRIVER	1	1	0	1	1	0	0	0	0
825	NON HWY OTHER/UNSPEC. DRIVER	3	3	0	3	3	0	0	0	0
826-829	OTHER ROAD VEHICLE ACCIDENTS	7	5	2	7	5	2	0	0	0
826	PEDAL CYC-ACCIDENT - PEDESTRIAN	5	4	1	5	4	1	0	0	0
828	ACDNT/INVOL/ANIM/RODE - PEDESTRIAN	1	0	1	1	0	1	0	0	0
829	OTH RD VEH ACDNT - PEDESTRIAN	1	1	0	1	1	0	0	0	0
830-838	WATER TRANSPORT ACCIDENTS	17	14	3	16	13	3	0	0	0
830	WATERCRAFT DROWNING - OCCUPANT	7	5	2	7	5	2	0	0	0
831	ACDNT-MTR/CRF-INJURY - OCC SM/BOAT UNPO	1	1	0	1	1	0	0	0	0
832	WATER TRANS DROWNING - OCCUPANT	7	7	0	6	6	0	0	0	0
838	OTH/UNSPC MTR/CRF ACDNT - OCC SM/BT UPO	2	1	1	2	1	1	0	0	0
840-845	AIR AND SPACE TRANSPORT ACCIDENTS	17	12	5	15	10	5	1	1	1
840	PHR AIR/CFT GO/UP/DWN - OCC SPACE/CFT	1	1	0	1	1	0	0	0	0
841	ACDNT PHR A/C O/SPEC - OCC SPACE/CFT	16	11	5	14	9	5	1	1	1
850-858	ACCIDENTAL POISONING BY DRUGS AND MEDICAMENTS	30	21	9	29	21	8	1	0	0
850	ACC POISON OPIATES AND RELATED NARCOTICS	6	4	2	6	4	2	0	0	0
853	ACC POISON PHENOTHIAZINE-BASED TRANQUILL	3	2	1	2	2	0	1	0	0
855	ANTICONVULSANT & ANTI-PARKINSONISM DRUGS	2	2	0	2	2	0	0	0	0
856	ACCIDENTAL POISONING BY ANTIBIOTICS	1	1	0	1	1	0	0	0	0
858	ACC POISON HORMONES & SYNTHETIC SUBSTITU	18	12	6	18	12	6	0	0	0
860-869	ACCIDENTAL POISONING BY OTHER SUBSTANCES GASES AND VAPOURS	14	12	2	11	10	1	3	2	1
860	ALCOHOLIC BEVERAGES ACC POISONING	1	1	0	0	0	0	1	1	0
866	ACC POISONING LEAD & COMPOUNDS & FUMES	1	1	0	1	1	0	0	0	0
867	ACC POISONING BY GAS DISTRIBUTED BY PIPE	1	0	1	0	0	0	1	0	1
868	ACC POISONING LIQUEFIED PETRO GAS CONTAI	8	8	0	7	7	0	1	1	0
869	ACC POISON NITROGEN OXIDES	3	2	1	3	2	1	0	0	0
870-876	MISADVENTURE TO PATIENTS DURING SURGICAL AND MEDICAL CARE	5	3	2	4	2	2	1	1	0
870	ACCIDENTAL CUT SURGICAL OPERATION	4	2	2	3	1	2	1	1	0
871	FOREIGN OBJ LEFT IN BODY,SURGICAL OPERAT	1	1	0	1	1	0	0	0	0
878-879	SURGICAL & MEDICAL PROCEDURES AS CAUSE OF LATER COMPLICATION	38	16	22	36	15	21	2	1	1
878	SURG OPERA WH TRANSPLANT OF WHOLE ORGAN	32	15	17	30	14	16	2	1	1
879	CARDIAC CATHETERIZATION	6	1	5	6	1	5	0	0	0
880-888	ACCIDENTAL FALLS	360	186	174	345	175	170	15	11	4
880	FALL ON OR FROM ESCALATOR	59	35	24	56	32	24	3	3	0
881	FALL FROM LADDER	11	11	0	11	11	0	0	0	0
882	FALL FROM OR OUT OF BUILDING OR STRUCT	10	10	0	10	10	0	0	0	0
883	ACC DIVING OR JUMPING INTO WATER	3	3	0	3	3	0	0	0	0
884	FALL FROM PLAYGROUND EQUIPMENT	25	17	8	23	16	7	2	1	1
885	FALL SAME LEVEL SLIPPING,TRIPPING,STUMBL	11	8	3	11	8	3	0	0	0
887	FRACTURE CAUSE UNSPECIFIED	138	57	81	135	56	79	3	1	2
888	OTH & UNSPECIFIED FALL	103	45	58	96	39	57	7	6	1
890-899	ACCIDENTS CAUSED BY FIRES AND FLAMES	69	40	29	59	33	26	9	7	2



TABLE C-15 (CONTINUED)

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ICD. LIST NUMBER	CAUSE OF DEATH XVII. EXTERNAL CAUSES OF INJURY AND POISONING	T O T A L S		W H I T E		B L A C K		O T H E R	
		TOT	MALE	FEM	TOT	MALE	FEM	TOT	MALE
960-969	HOMICIDE AND INJURY PURPOSELY INFLICTED BY OTHER PERSONS	228	162	66	152	102	50	67	57
963	ASSAULT BY HANGING AND STRANGULATION	17	4	13	16	4	12	1	0
964	ASSAULT BY SUBMERSION(DROWNING)	1	1	0	1	1	0	0	0
965	ASSAULT BY HANDGUN	104	83	21	58	43	15	43	39
966	ASSAULT BY CUTTING AND PIERCING INSTRUM	64	43	21	40	27	13	19	14
968	ASSAULT BY FIRE	42	31	11	37	27	10	4	4
970-978	LEGAL INTERVENTION	1	1	0	0	0	0	1	1
970	LEGAL INTERVENTION - FIREARMS	1	1	0	0	0	0	1	1
980-989	INJURY UNDETERMINED WHETHER ACCIDENTALLY OR PURPOSELY INFLICTED	211	168	43	181	149	32	30	19
980	POISONING,ANALGESICS,ANTIPYRE & ANTIRHEU	174	138	36	146	120	26	28	18
982	POISONING,M/V EXHAUST GAS	2	2	0	2	2	0	0	0
983	HANGING	1	1	0	1	1	0	0	0
984	SUBMERSION, DROWNING	10	8	2	10	8	2	0	0
985	INJURY BY HANDGUN	2	1	1	2	1	1	0	0
987	FALL FR HIGH PLACE,RESIDENTIAL PREMISES	3	2	1	2	2	0	1	0
988	JUMPING OR LYING BEFORE MOVING OBJECT	19	16	3	18	15	3	1	1
***	RESIDENT GRAND TOTALS	53748	26076	27672	51605	24885	26720	1852	1028
	TOTALS INCLUDE	0	0	0	0	0	0	291	163
	0 OF UNKNOWN RACE:	0	0	0	0	0	0	128	128





# NEONATAL AND INFANT DEATHS



## SECTION D

### NEONATAL AND INFANT DEATHS

The total number of resident infant deaths (deaths of children less than 1 year of age) increased by 0.6% in Massachusetts from 693 in 1988 to 697 in 1989. The rate of infant deaths, however, decreased from 7.9 per 1,000 live births in 1988 to 7.6 in 1989. As with live births and other deaths, all Massachusetts resident infant deaths are included regardless of the state in which they occurred. Neonatal deaths (deaths of infants under 28 days of age) also increased, from 477 in 1988 to 479 in 1989, an increase of 0.4%. The rate of neonatal deaths per 1,000 live births decreased from 5.4 in 1988 to 5.2 in 1989.

### INFANT DEATHS BY RACE

Beginning with the publication of 1989 data, several changes occurred in the method of calculating infant mortality rates that affect the size of the calculated rates and make this year's information less comparable to previous years. **These changes affect only the calculation of race-specific infant mortality rates; all other data presented in this publication are comparable to information from previous years.** These changes are the result of new federal recommendations for analyzing birth information, including infant mortality data. Black and white IMRs are presented using both the old and new methods of calculation. This section explains the reasons for the changes, the impact of these changes, and the appropriate rates to use.

#### Using mother's race rather than infant's race:

The National Center for Health Statistics (NCHS) has recommended classifying births on the birth certificate according to the self-reported race of the mother. In the past, the race of the infant was assigned by combining information on the races of the mother and father. This method has been criticized as being arbitrary. Thus, Massachusetts will follow new NCHS guidelines, and begin calculating infant mortality using mother's race.

It is important to remember that the actual number of infant deaths does not change--nor do the race categories into which they are placed. (The death certificate only contains race identifiers for the decedent, in this case the infant. It contains no race information about mothers.) Only the race category used to classify births changes.

The impact of this change is to lower the white infant mortality rate and raise the black infant mortality rate. For example, using infant's race in 1988, the white IMR was 7.1 per 1,000 births; the black IMR was 17.2. Using the same death information, but classifying births according to mother's race, the white IMR declines to 7.0 and the black IMR increases to 19.5. Thus, the gap between the white IMR and the black IMR increases from 142% to 179%, based solely on the change in method of computation.

### Change in the Classification of Births Using Infant's Race and Mother's Race: 1989

RACE GROUP	CLASSIFIED BY INFANT'S RACE	CLASSIFIED BY MOTHER'S RACE	PERCENT CHANGE DUE TO RECLASSIFICATION
Number of births			
White	78,620	80,027	+ 1.8
Black	8,428	7,374	- 12.5
Other	3,953	3,526	- 10.8
Unknown	313	387	+ 23.6
TOTAL	91,314	91,314	0.0

### A Summary of the Impact of Classification Changes on 1989 IMRs

CHANGE	ADVANTAGES	IMPACT
Using mother's race rather than infant's race to categorize births	<ul style="list-style-type: none"> <li>--Provides consistency with federal guidelines</li> <li>--Discontinues arbitrary combination of parents' race responses to classify infant race</li> </ul>	<ul style="list-style-type: none"> <li>--Reduces comparability with previously published data for past years</li> <li>--<del>Lowers</del> the IMR for whites and <del>raises</del> the IMR for blacks, thus increasing the gap between white and black rates</li> <li>--Reduces comparability with other states and federal data that have not implemented this change</li> </ul>

### INFANT DEATHS BY AGE

Of all infant deaths, 45.9% occurred within the first 24 hours of life and 58.1% within the first week of life.

### INFANT DEATHS BY CAUSE

The leading cause of infant deaths was certain conditions originating in the perinatal period (medical conditions arising from approximately 28 weeks gestation to 28 days of age). These deaths accounted for 52.9% of all infant deaths in 1989, a slight decrease from the 1988 percentage of 53.5%. The second leading cause of infant deaths was congenital anomalies, which accounted for 20.1% of infant deaths. The third leading cause of infant deaths was sudden infant death syndrome (SIDS), which increased in number from 79 infant deaths in 1988 (11.4% of all infant deaths) to 87 infant deaths in 1989 (12.5% of all infant deaths).

## **NEONATAL MORTALITY BY BIRTHWEIGHT**

Neonatal mortality is highly correlated to low birthweight. Low birthweight babies (under 2,500 grams or 5 pounds, 8 ounces) accounted for 5.9% of all babies born in Massachusetts in 1989.

### **DEFINITIONS IMPORTANT FOR THIS SECTION INCLUDE:**

#### **INFANT DEATH**

Death of a child whose age is less than one year (365 days).

#### **NEONATAL DEATH**

Death of a child whose age is less than 28 days.

#### **FETAL DEATH**

A fetal death is a death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy; the death is indicated by the fact that after such separation the fetus does not breath or show any other evidence of life, such as the beating of the heart, pulsation of the umbilical cord, or definite movement of the voluntary muscles.

Massachusetts law requires that fetal deaths of 20 or more weeks gestation or of a weight of at least 350 grams be reported; therefore, the fetal deaths referred to in this report are of that gestational age or weight.

### **RATES IMPORTANT FOR THIS SECTION INCLUDE:**

#### **INFANT MORTALITY RATE (IMR)**

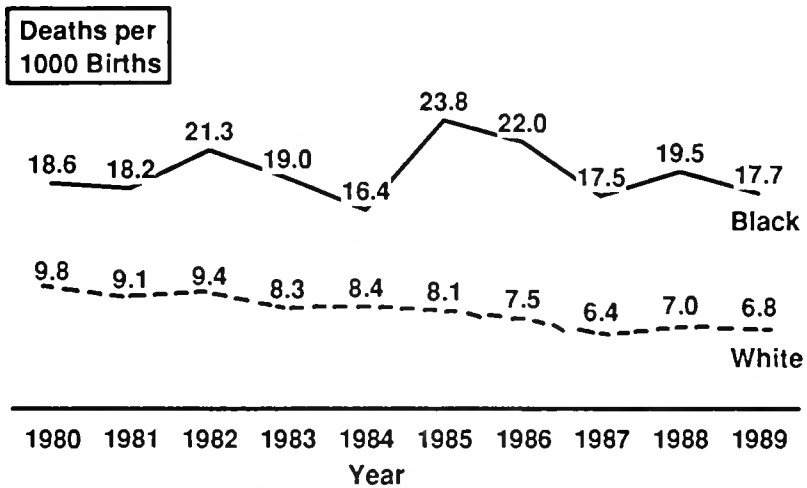
$$\frac{\text{Number of Resident Deaths at Less than 1 Year of Age} \times 1,000}{\text{Total Resident Live Births}}$$

#### **NEONATAL MORTALITY RATE (NMR)**

$$\frac{\text{Number of Resident Deaths at Less Than 28 Days of Age} \times 1,000}{\text{Total Resident Live Births}}$$

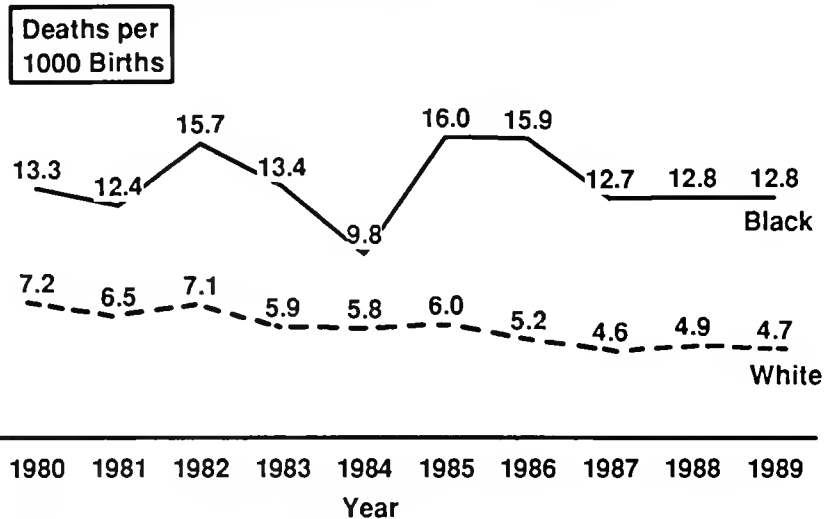


**Figure D-1**  
**Infant Mortality Rates<sup>1,2,3</sup>**  
**by Mother's Race**  
**Massachusetts: 1980-1989**



1. Infant mortality rates are per 1000 live births.
2. Infant: A child less than one year (365 days) old.
3. Deaths of infants of unknown race are excluded except for the total calculation.  
 For rate computations, infants of unknown race are allocated into the race categories according to the distribution of births of known races.

**Figure D-2**  
**Neonatal Mortality Rates<sup>1,2,3</sup>**  
**by Mother's Race**  
**Massachusetts: 1980-1989**



1. Neonatal mortality rates are per 1000 live births.

2. Neonatal: Infants under 28 days old.

3. Deaths of infants of unknown race are excluded except for the total calculation.

For rate computations, infants of unknown race are allocated into the race categories according to the distribution of births of known races.



**TABLE D-1**  
**INFANT AND NEONATAL DEATHS**  
**MASSACHUSETTS AND UNITED STATES RESIDENT DEATHS**  
**1970-1989**

Year	Infant Deaths (Deaths Under One Year)			Neonatal Deaths (Deaths Under 28 Days)		
	# of Deaths	Rate Per 1,000 Live Births		# of Deaths	Rate Per 1,000 Live Births	
		MA	U.S.		MA	U.S.
1970	1,583	16.9	20.0	1,231	13.1	15.1
1971	1,462	16.8	19.1	1,130	13.0	14.2
1972	1,164	15.1	18.5	896	11.6	13.6
1973	1,104	15.2	17.7	861	11.9	13.0
1974	976	13.9	16.7	763	10.8	12.3
1975	903	13.2	16.1	678	9.9	11.6
1976	799	12.1	15.2	585	8.9	10.9
1977	806	11.8	14.1	616	9.1	9.9
1978	753	11.0	13.8	552	8.1	9.5
1979	760	10.8	13.1	564	8.0	8.9
1980	748	10.3	12.6	550	7.6	8.5
1981	710	9.6	11.9	510	6.9	8.0
1982	764	10.1	11.5	573	7.6	7.7
1983	682	9.0	11.2	482	6.3	7.3
1984	699	8.9	10.8	472	6.0	7.0
1985	745	9.1	10.6	538	6.6	7.0
1986	695	8.4	10.4	478	5.8	6.7
1987	608	7.2	10.0	432	5.1	6.5
1988	693	7.9	10.0	477	5.4	6.3 <sup>1</sup>
1989	697	7.6	9.8	479	5.2	6.2

<sup>1</sup> Revised

**TABLE D-2**  
**TRENDS IN INFANT AND NEONATAL MORTALITY<sup>1</sup> BY INFANT'S RACE**  
**MASSACHUSETTS RESIDENT DEATHS**  
**1980-1989**

Year <sup>3</sup>	Infant Deaths										
	Total		White			Black			Other <sup>2</sup>		
			Rate			Rate			Rate		
	#	Rate <sup>4</sup>	#	Old	New	#	Old	New	#	Old	New
1980	748	10.3	655	9.9	9.8	87	16.6	18.6	5	4.0	4.6
1981	710	9.6	616	9.2	9.1	85	16.0	18.2	8	35.3	6.1
1982	764	10.1	656	9.6	9.4	102	19.0	21.3	5	2.9	3.3
1983	682	9.0	579	8.4	8.3	89	16.8	19.0	12	6.6	7.4
1984	699	8.9	601	8.5	8.4	82	14.7	16.4	13	6.6	7.5
1985	745	9.1	608	8.2	8.1	126	21.3	23.8	11	5.3	6.1
1986	695	8.4	560	7.6	7.5	123	19.7	22.0	11	4.0	4.6
1987	608	7.2	486	6.6	6.4	110	15.5	17.5	12	3.9	4.5
1988	693	7.9	546	7.1	7.0	133	17.2	19.5	13	3.4	3.8
1989	697	7.6	549	7.0	6.8	131	15.5	17.7	17	4.3	4.8

Year	Neonatal Deaths										
	Total		White			Black			Other		
			Rate			Rate			Rate		
	#	Rate	#	Old	New	#	Old	New	#	Old	New
1980	550	7.6	483	7.3	7.2	62	11.9	13.3	5	4.0	4.6
1981	510	6.9	442	6.6	6.5	59	11.1	12.4	5	3.3	3.8
1982	573	7.6	494	7.2	7.1	75	13.9	15.7	3	- <sup>5</sup>	-
1983	482	6.3	411	6.0	5.9	63	11.9	13.4	7	3.8	4.3
1984	472	6.0	411	5.8	5.8	49	8.8	9.8	8	4.0	4.6
1985	538	6.6	447	6.0	6.0	85	14.4	16.0	5	2.4	2.8
1986	478	5.8	383	5.2	5.2	89	14.2	15.9	5	1.8	2.1
1987	432	5.1	343	4.6	4.6	80	11.2	12.7	9	2.9	3.4
1988	477	5.4	383	5.0	4.9	87	11.3	12.8	6	1.6	1.8
1989	479	5.2	376	4.8	4.7	95	11.2	12.8	8	2.0	2.3

<sup>1</sup> Hispanic origin could not be identified on the Massachusetts death certificate before 1989; thus, Hispanic trend data are not available.

<sup>2</sup> Other: Asian, American Indian, etc. Deaths of infants of unknown race are excluded except for the total calculation. For rate computations, births of infants of unknown race are allocated into the race categories according to the distribution of births of known race.

<sup>3</sup> On tables and graphs which include data prior to June 1986, the race classifications do not include an ethnicity component; most Hispanics are included in the race category of white.

<sup>4</sup> Infant and neonatal mortality rates are per 1,000 live births.

<sup>5</sup> Calculations based on fewer than five events are excluded.

**TABLE D-3**  
**INFANT AND NEONATAL DEATHS BY SELECTED UNDERLYING CAUSES**  
**MASSACHUSETTS RESIDENT DEATHS**  
**1989**

Underlying Cause	ICD-9	Infant (<1 year) # %	Neonatal (<28 days) # %
<b>TOTAL</b>		697 100.0	479 100.0
Septicemia	038	5 0.7	0 -- <sup>1</sup>
Diseases of the Nervous System and Sense Organs	320-329	0 --	0 --
Diseases of the Circulatory System	390-459	10 1.4	5 1.0
Diseases of the Respiratory System	460-519	10 1.4	1 --
Diseases of the Digestive System	520-579	6 0.9	0 --
<b>Congenital Anomalies</b>			
Congenital anomalies of the nervous system <sup>2</sup>	740-759	141 20.3	107 22.3
Congenital anomalies of the heart	740-742	9	9
Congenital anomalies of the circulatory system, excluding heart	745-746	49	28
Congenital anomalies of the respiratory system	747	4	4
Congenital anomalies of the digestive system	748	21	19
Congenital anomalies of the musculoskeletal system	749-751	3	1
Chromosomal anomalies	753-756	20	17
Unspecified congenital anomalies	758	22	19
	759	12	10
<b>Certain Conditions Originating in the Perinatal Period</b>			
Newborn affected by maternal complications of pregnancy	760-779	369 52.9	346 72.2
Newborn affected by complications of placenta, cord and membrane	761	36	36
Disorders relating to short gestation and unspecified low birthweight	762	33	33
Intrauterine hypoxia and birth asphyxia	765	90	90
Respiratory distress syndrome	768	11	8
Other respiratory conditions	769	60	59
Infections specific to the perinatal period	770	71	59
Ill-defined conditions originating in the prenatal period	771	18	16
	779	31	29
<b>Sudden Infant Death Syndrome (SIDS)</b>			
<b>Injuries</b>	798.0	87 12.5	4 --
	E800-E999	10 1.4	0 --
<b>All Other Causes</b>	Residual	59 8.5	16 3.3

<sup>1</sup> Calculations based on fewer than five events are excluded.

<sup>2</sup> The ICD-9 subcategories are only selected causes, and the sum does not equal the total.

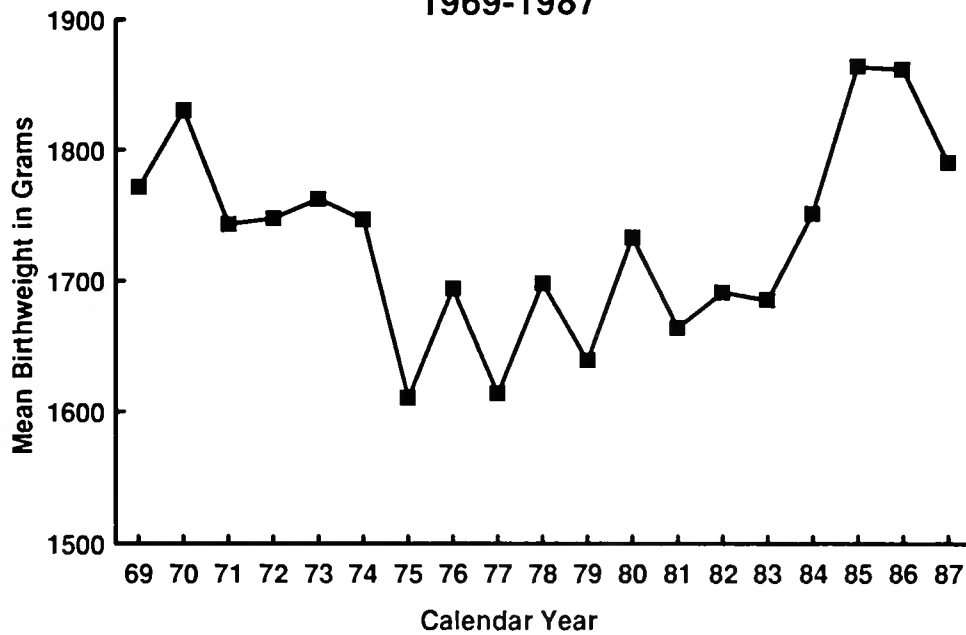
**TABLE D-4**  
**INFANT AND NEONATAL DEATHS BY AGE, SEX AND RACE**  
**MASSACHUSETTS RESIDENT DEATHS**  
**1989**

	TOTAL			WHITE			BLACK			OTHER		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total <sup>1</sup> (less than one year) Rate	697 7.6	396 6.5	301 6.8	549 8.8	319 7.7	230 5.9	131 17.7	69 18.2	62 17.1	17 4.8	8 4.4	9 5.3
Less Than One Day	320	173	147	240	133	107	75	37	38	5	3	2
1 Day	37	21	16	29	18	11	7	3	4	1	— <sup>2</sup>	1
2 Days	16	13	3	11	9	2	5	4	1	—	—	—
3 Days	13	7	6	13	7	6	—	—	—	—	—	—
4 Days	7	6	1	7	6	1	—	—	—	—	—	—
5 Days	6	3	3	6	3	3	—	—	—	—	—	—
6 Days	6	4	2	5	3	2	1	1	—	—	—	—
Less Than One Week Rate	405 4.4	227 4.8	178 4.0	311 3.9	179 4.3	132 3.4	88 11.9	45 11.9	43 11.8	6 1.7	3 1.6	3 1.8
7-13 Days	32	17	15	30	16	14	1	1	—	1	—	1
14-27 Days	42	29	13	35	23	12	6	5	1	1	1	—
Less Than 28 Days Rate	479 5.2	273 5.8	206 4.6	376 4.7	218 5.3	158 4.0	95 12.8	51 13.5	44 12.1	8 2.3	4 2.2	4 2.3
1 Month	59	32	27	47	27	20	10	4	6	2	1	1
2 Months	42	25	17	37	24	13	5	1	4	—	—	—
3 Months	43	21	22	32	18	14	8	3	5	3	—	3
4 Months	14	9	5	11	7	4	2	1	1	1	1	—
5 Months	16	10	6	13	8	5	1	1	—	2	1	1
6 Months	15	8	7	9	3	6	5	4	1	1	1	—
7 Months	7	5	2	5	4	1	2	1	1	—	—	—
8 Months	6	3	3	6	3	3	—	—	—	—	—	—
9 Months	3	2	1	3	2	1	—	—	—	—	—	—
10 Months	8	4	4	6	2	4	2	2	—	—	—	—
11 Months	5	4	1	4	3	1	1	1	—	—	—	—

<sup>1</sup>In calculating the infant mortality rate by race, births of unknown race have been allocated to white, black, and other based on their percents of total births with reported race.

<sup>2</sup> --Indicates zero events.

Figure D-3  
Neonatal Deaths by Mean Birthweight  
1969-1987



**TABLE D-5**  
**NEONATAL MORTALITY BY BIRTHWEIGHT <sup>1</sup>**  
**MASSACHUSETTS RESIDENT BIRTHS/DEATHS**  
**1980-1987**

All Birthweights			<500 grams	500-1499 grams	1500-2499 grams	2500-4499 grams	4500-8165 grams	Unknown
1980	Neonatal Deaths	539	85	237	73	112	4	28
	Births	72,627	90	650	3,687	66,714	1,398	88
	Rate	7.4	944.4	364.6	19.8	1.7	2.9	318.2
1981	Neonatal Deaths	467	74	202	56	95	4	36
	Births	73,960	84	666	3,687	67,968	1,474	81
	Rate	6.3	881.0	303.3	15.2	1.4	2.7	444.4
1982	Neonatal Deaths	567	90	263	69	127	3	15
	Births	75,771	91	752	3,614	69,785	1,461	68
	Rate	7.5	989.0	349.7	19.1	1.8	2.0	220.6
1983	Neonatal Deaths	484	90	210	53	103	3	25
	Births	76,080	96	709	3,688	69,906	1,594	87
	Rate	6.4	937.5	296.2	14.4	1.5	1.9	287.4
1984	Neonatal Deaths	479	87	172	60	98	3	59
	Births	78,237	94	667	3,839	71,826	1,693	118
	Rate	6.1	925.5	257.9	15.6	1.4	1.8	500.0
1985	Neonatal Deaths	534	117	193	72	119	7	26
	Births	81,844	123	754	3,910	75,216	1,746	95
	Rate	6.5	951.2	256.0	18.4	1.6	4.0	273.7
1986	Neonatal Deaths	479	101	166	59	100	9	44
	Births	82,324	107	693	3,880	74,648	1,849	1,147
	Rate	5.8	943.9	239.5	15.2	1.3	4.9	38.4
1987	Neonatal Deaths	427	93	155	61	80	6	32
	Births	84,343	93	713	4,041	77,200	1,906	390
	Rate	5.1	1000.0	217.4	15.1	1.0	3.1	82.0

<sup>1</sup> The figures used in this table cannot be directly compared with other tables in this report. Neonatal mortality statistics by birthweight include deaths to infants less than 28 days old who were born to residents of Massachusetts. Deaths occurring in January of the subsequent year are included if the birth occurred in December of the data year. Deaths occurring in January of the data year are not included if the birth occurred in December of the previous year. Denominators are resident births of the data year.

# **MARRIAGES AND DIVORCES**





## SECTION E

### MARRIAGES AND DIVORCES

Marriages and divorces are reported by place of occurrence in Massachusetts. For example, if two Boston residents are married in Barnstable, this marriage will be reported by place of occurrence (Barnstable) rather than the residence of the couple (Boston). Marriages have traditionally been reported in this manner because of the number of couples who live in different communities. Additionally, out-of-state residents who marry in Massachusetts are included in these data.

Marriages and divorces which involve Massachusetts residents, but occur in other states, are not included in these figures. No system of interstate exchange exists for these events. Unlike some states, Massachusetts marriage and divorce laws neither encourage out-of-state residents to come to the state nor discourage residents from using the Massachusetts system by imposing long waiting periods, etc. This allows the marriage data to be used to estimate resident marriages.

In 1989, 49,174 marriages occurred in Massachusetts compared to 49,941 in 1988, a decrease of 1.5%. The rate of marriages was 8.4 per 1,000 population in 1989, a slight decrease from the 1988 rate of 8.5. The 1989 U.S. rate of marriages per 1,000 population was 9.7, the same as for 1988. Of the brides, 75.4% had never previously married. This percentage was slightly less among the grooms—73.8%.

In 1989, 16,819 divorces were granted in Massachusetts, a decrease of 4.8% from the 17,676 divorces granted in 1988. The 1989 rate of divorce per 1,000 population in Massachusetts was 2.9. This rate was well below the 1988 U.S. rate of 4.7 divorces per 1,000 population, which was a slight decrease from the 1988 U.S. rate of divorces per 1,000 population.

#### RATES IMPORTANT FOR THIS SECTION INCLUDE:

##### MARRIAGE RATE

$$\frac{\text{Number of Occurrence Marriages} \times 1,000}{\text{Total Population}}$$

##### DIVORCE RATE

$$\frac{\text{Number of Occurrence Divorces} \times 1,000}{\text{Total Population}}$$

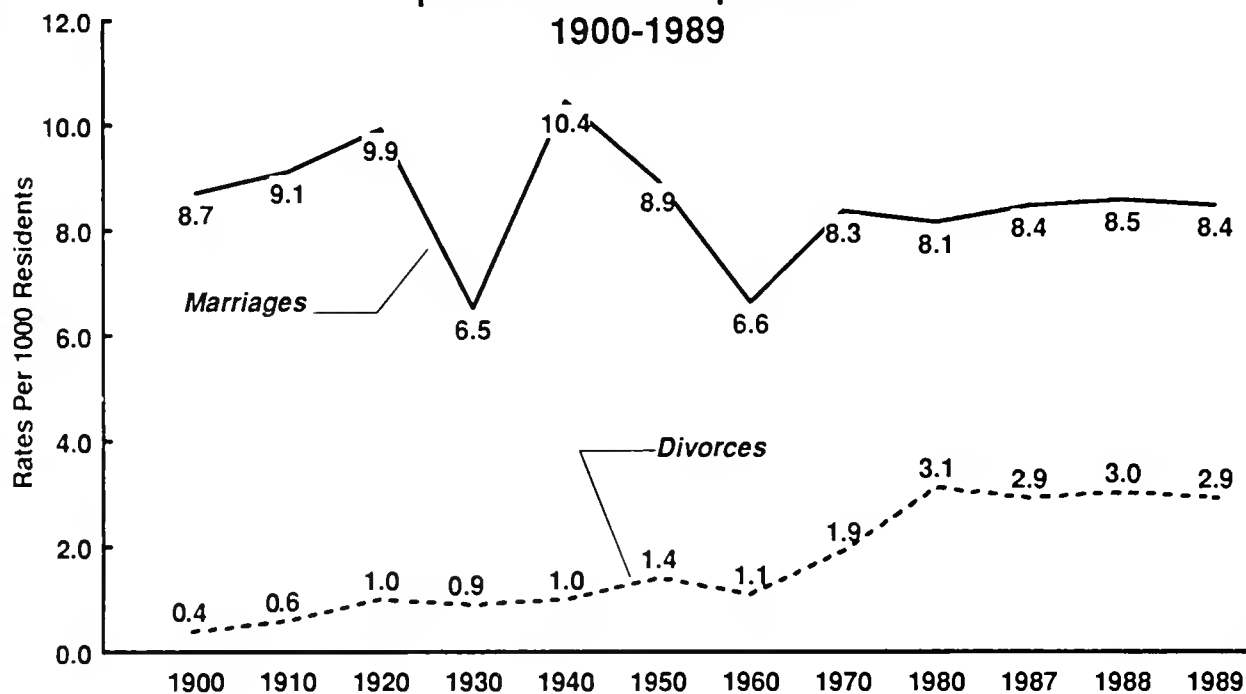


**TABLE E-1  
MARRIAGES AND DIVORCES BY COUNTY  
MASSACHUSETTS OCCURRENCE  
1989**

	MARRIAGES	DIVORCES
<b>STATE TOTAL</b>	<b>49,174</b>	<b>16,819</b>
<b><u>COUNTIES</u></b>		
<b>BARNSTABLE</b>	<b>2,053</b>	<b>601</b>
<b>BERKSHIRE</b>	<b>1,328</b>	<b>458</b>
<b>BRISTOL</b>	<b>4,148</b>	<b>1,587</b>
<b>DUKES</b>	<b>353</b>	<b>33</b>
<b>ESSEX</b>	<b>5,733</b>	<b>2,041</b>
<b>FRANKLIN</b>	<b>557</b>	<b>237</b>
<b>HAMPDEN</b>	<b>3,565</b>	<b>1,481</b>
<b>HAMPSHIRE</b>	<b>1,093</b>	<b>327</b>
<b>MIDDLESEX</b>	<b>11,233</b>	<b>3,682</b>
<b>NANTUCKET</b>	<b>235</b>	<b>15</b>
<b>NORFOLK</b>	<b>4,915</b>	<b>1,390</b>
<b>PLYMOUTH</b>	<b>3,552</b>	<b>1,428</b>
<b>SUFFOLK</b>	<b>4,750</b>	<b>996</b>
<b>WORCESTER</b>	<b>5,659</b>	<b>2,543</b>

Figure E-1

Rates of Marriages and Divorces  
per Thousand Population  
1900-1989



**TABLE E-2**  
**MARRIAGES AND DIVORCES AND RATES PER 1,000 POPULATION**  
**MASSACHUSETTS OCCURRENCE**  
**1900-1989**

YEAR	MARRIAGES		DIVORCES	
	NUMBER	RATE	NUMBER	RATE
1900	24,342	8.7	1,258	0.4
1905	27,184	9.1	1,554	0.5
1910	30,710	9.1	1,929	0.6
1915	31,301	8.5	2,252	0.6
1920	38,048	9.9	3,647	1.0
1925	31,238	7.5	3,395	0.8
1930	27,431	6.5	3,746	0.9
1935	30,019	6.9	4,081	0.9
1940	44,836	10.4	4,502	1.0
1945	38,197	8.5	6,833	1.5
1950	41,711	8.9	6,365	1.4
1955	35,585	7.3	5,601	1.2
1960	34,050	6.6	5,592	1.1
1965	38,281	7.2	7,728	1.5
1970	47,292	8.3	10,818	1.9
1975	42,103	7.3	16,460	2.8
1980	46,273	8.1	17,873	3.1
1981	47,802	8.3	19,502	3.4
1982	48,654	8.4	19,531	3.4
1983	48,789	8.4	18,477	3.2
1984	50,302	8.7	17,123	3.0
1985	49,849	8.6	21,573	3.7
1986	49,990	8.6	19,809	3.4
1987	49,034	8.4	16,994	2.9
1988	49,941	8.5	17,676	3.0
1989	49,174	8.4	16,819	2.9

**TABLE E-3  
MARRIAGES BY AGE AND MARITAL STATUS  
MASSACHUSETTS OCCURRENCE  
1989**

BRIDE								
Age	Total		Single		Widowed		Divorced	
	Number	% <sup>1</sup>	Number	%	Number	%	Number	%
TOTAL	49,174	100.0	37,076	75.4	1,093	2.2	11,005	22.4
<20	1,845	3.8	1,841	3.7	-- <sup>2</sup>	** <sup>3</sup>	4	**
20-29	29,758	60.5	27,413	55.7	46	0.1	2,299	4.7
30-39	12,500	25.4	7,068	14.4	203	0.4	5,229	10.6
40-49	3,583	7.3	638	1.3	241	0.5	2,704	5.5
50-59	937	1.9	83	0.2	227	0.5	627	1.3
60-69	388	0.8	22	**	239	0.5	127	0.3
≥70	163	0.3	11	**	137	0.3	15	**
GROOM								
Age	Total		Single		Widowed		Divorced	
	Number	%	Number	%	Number	%	Number	%
TOTAL	49,174	100.0	36,297	73.8	1,078	2.2	11,799	24.0
<20	573	1.2	572	1.2	--	**	1	**
20-29	25,889	52.6	24,555	49.9	10	**	1,324	2.7
30-39	15,177	30.9	10,036	20.4	65	0.1	5,076	10.3
40-49	4,792	9.7	958	2.0	154	0.3	3,680	7.5
50-59	1,683	3.4	120	0.2	242	0.5	1,321	2.7
60-69	741	1.5	45	0.1	347	0.7	349	0.7
≥70	319	0.6	11	**	260	0.5	48	0.1

<sup>1</sup>All percentages are based on the total number of marriages, e.g., single brides between the ages of 20 and 29 equal 55.7% of all brides married in Massachusetts in 1989.

<sup>2</sup>--Indicates zero events.

<sup>3</sup>\*\*Percentages less than 0.1 are excluded.

**TABLE E-4**  
**NUMBER OF MARRIAGES BY AGE OF BRIDE AND AGE OF GROOM**  
**MASSACHUSETTS OCCURRENCE**  
**1989**

AGE OF GROOM								
AGE OF BRIDE	TOTAL	<20	20-29	30-39	40-49	50-59	60-69	≥70
TOTAL	49,174	573	25,889	15,177	4,792	1,683	741	319
<20	1,845	328	1,435	72	9	1	0	0
20-29	29,758	232	21,765	7,079	622	48	10	2
30-39	12,500	12	2,551	7,192	2,355	336	52	2
40-49	3,583	1	132	793	1,624	824	192	17
50-59	937	0	6	37	173	414	257	50
60-69	388	0	0	4	9	58	209	108
≥70	163	0	0	0	0	2	21	140

**TABLE E-5**  
**NUMBER OF MARRIAGES FOR BRIDE BY NUMBER OF MARRIAGES FOR GROOM**  
**MASSACHUSETTS OCCURRENCE**  
**1989**

NUMBER OF MARRIAGES						
BRIDE	GROOM					
	TOTAL	1	2	3	4	≥5
TOTAL	49,174	36,300	10,993	1,681	186	14
1	37,077	31,508	4,997	526	45	1
2	10,349	4,353	5,075	820	95	6
3	1,569	409	818	303	34	5
4	156	28	90	27	9	2
≥5	23	2	13	5	3	0





# POPULATION



## **SECTION F**

### **POPULATION**

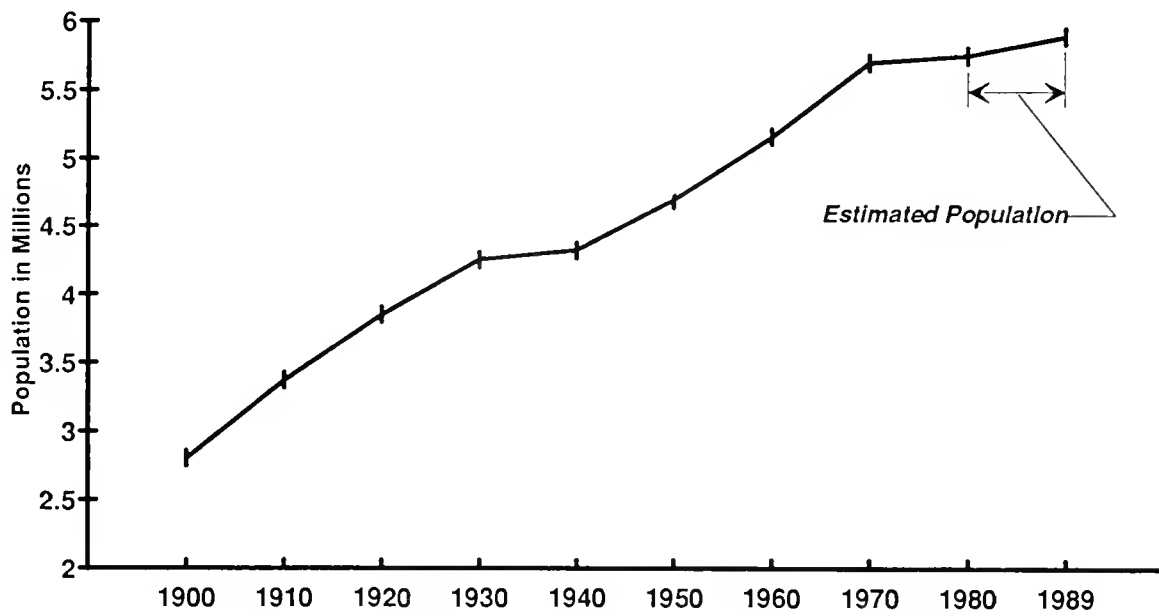
The population data in this section are presented for use in computing rates for small areas and for reporting changes over time by municipality and county. They are based primarily on the federal census for decennial years, e.g., 1980, and on the Commonwealth census for intercensal years, e.g., 1975, and on the Massachusetts Institute for Social and Economic Research (MISER) estimates for 1985 (see Table F-2).

Prior to 1985, the Massachusetts State Census method of enumeration differed from the federal census. Generally, the state figures excluded non-resident students and military families residing in the Commonwealth; they are included in the U.S. Census definition of resident.

The Massachusetts population estimates for 1980-1989 (Table F-4) are interpolations based on the 1980 federal census and the 1990 population projections provided by MISER. The interpolations have been calculated by Robert A. Danley, Ph.D., Division of Research and Epidemiology, Bureau of Health Statistics, Research and Evaluation.



**FIGURE F-1**  
**MASSACHUSETTS POPULATION**  
**1900-1989**



**TABLE F-1**  
**POPULATION BY RACE, AGE AND SEX**  
**MASSACHUSETTS**  
**1980**

<i>AGE</i>	<i>SEX</i>	<i>TOTAL</i>	<i>WHITE</i>	<i>BLACK</i>	<i>OTHER &amp; UNKNOWN</i>
UNDER 1	MALE	36,771	32,822	2,076	1,873
	FEMALE	34,959	31,174	1,938	1,847
	TOTAL	71,730	63,996	4,014	3,720
1-4	MALE	136,258	122,083	7,454	6,721
	FEMALE	129,227	115,440	7,190	6,597
	TOTAL	265,485	237,523	14,644	13,318
5-9	MALE	191,602	173,505	9,866	8,231
	FEMALE	183,132	165,337	9,819	7,976
	TOTAL	374,734	338,842	19,685	16,207
10-14	MALE	235,669	216,445	11,636	7,588
	FEMALE	225,663	206,831	11,429	7,403
	TOTAL	461,332	423,276	23,065	14,991
15-19	MALE	274,859	253,767	12,934	8,158
	FEMALE	273,380	252,117	13,106	8,157
	TOTAL	548,239	505,884	26,040	16,315
20-24	MALE	270,713	250,616	11,558	8,539
	FEMALE	282,189	260,612	12,809	8,768
	TOTAL	552,902	511,228	24,367	17,307
25-29	MALE	239,341	221,554	9,952	7,835
	FEMALE	249,834	230,586	11,031	8,217
	TOTAL	489,175	452,140	20,983	16,052
30-34	MALE	217,649	202,785	8,306	6,558
	FEMALE	228,746	211,798	9,634	7,314
	TOTAL	446,395	414,583	17,940	13,872
35-39	MALE	169,502	158,362	6,577	4,563
	FEMALE	179,050	166,127	7,956	4,967
	TOTAL	348,552	324,489	14,533	9,530
40-44	MALE	134,925	126,332	5,013	3,580
	FEMALE	143,823	134,182	5,866	3,775
	TOTAL	278,748	260,514	10,879	7,355

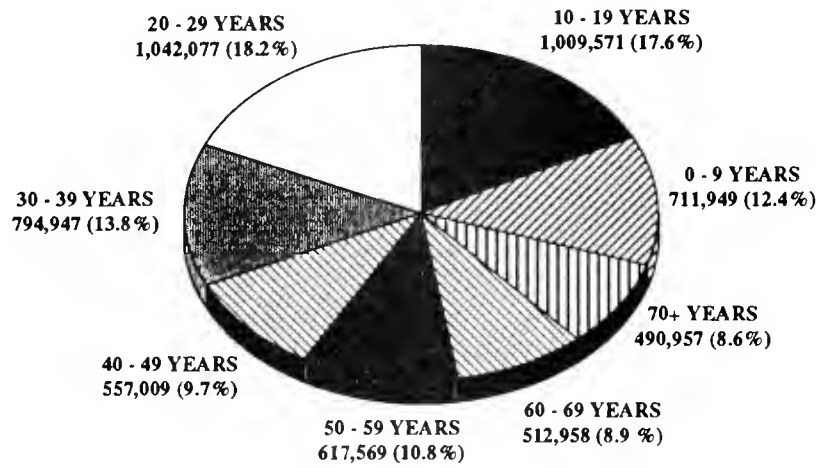
**TABLE F-1 (continued)**  
**POPULATION BY RACE, AGE AND SEX**  
**MASSACHUSETTS**  
**1980**

<i>AGE</i>	<i>SEX</i>	<i>TOTAL</i>	<i>WHITE</i>	<i>BLACK</i>	<i>OTHER &amp; UNKNOWN</i>
45-49	MALE	134,444	127,300	4,329	2,815
	FEMALE	143,817	135,730	5,030	3,057
	TOTAL	278,261	263,030	9,359	5,872
50-54	MALE	146,211	139,828	4,057	2,326
	FEMALE	160,363	152,917	4,793	2,653
	TOTAL	306,574	292,745	8,850	4,979
55-59	MALE	145,603	140,132	3,587	1,884
	FEMALE	165,392	159,005	4,304	2,083
	TOTAL	310,995	299,137	7,891	3,967
60-64	MALE	126,323	122,160	2,803	1,360
	FEMALE	151,061	145,859	3,510	1,692
	TOTAL	277,384	268,019	6,313	3,052
65-69	MALE	101,023	98,076	1,953	994
	FEMALE	134,551	130,398	2,810	1,343
	TOTAL	235,574	228,474	4,763	2,337
70-74	MALE	73,235	71,293	1,285	657
	FEMALE	113,806	110,942	1,892	972
	TOTAL	187,041	182,235	3,177	1,629
75-79	MALE	48,145	46,659	810	476
	FEMALE	89,683	87,573	1,441	669
	TOTAL	137,828	134,432	2,251	1,145
80-84	MALE	28,513	27,747	480	286
	FEMALE	63,667	62,351	899	417
	TOTAL	92,180	90,098	1,379	703
85 & OVER	MALE	20,107	19,485	374	248
	FEMALE	53,801	52,706	772	323
	TOTAL	73,908	72,191	1,146	571
TOTAL	MALE	2,730,893	2,551,151	105,050	74,692
	FEMALE	3,006,144	2,811,685	116,229	78,230
	TOTAL	5,737,037 (100.0%)	5,362,836 (93.4%)	221,279 (3.9%)	152,922 (2.7%)

Source: U.S. Bureau of the Census

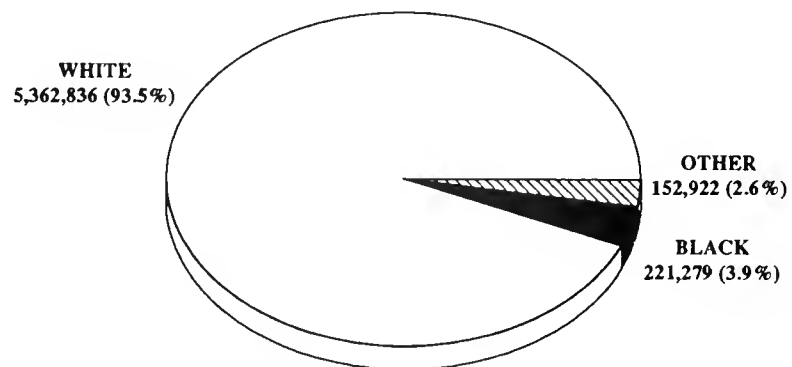
**FIGURE F - 2**

**1980 MASSACHUSETTS POPULATION BY AGE**



**FIGURE F - 3**

**1980 MASSACHUSETTS POPULATION BY RACE**





**TABLE F-2**  
**MASSACHUSETTS POPULATION BY COUNTIES**  
**1960-1985**

	Federal 1960	State 1965	Federal 1970	State 1975	Federal 1980	Estimate 1985*
<b>STATE</b>	<b>5,148,578</b>	<b>5,295,281</b>	<b>5,689,170</b>	<b>5,789,478</b>	<b>5,737,037</b>	<b>5,814,873</b>
<i>Counties</i>						
Barnstable	70,286	73,557	96,656	126,481	147,925	166,406
Berkshire	142,135	145,597	149,402	148,069	145,110	142,694
Bristol	398,488	415,242	444,301	461,852	474,641	484,635
Dukes	5,829	5,948	6,117	7,951	8,942	10,476
Essex	568,831	608,996	637,887	631,627	633,632	641,226
Franklin	54,864	57,687	59,210	63,420	64,317	65,790
Hampden	429,353	435,281	459,050	461,659	443,018	441,908
Hampshire	103,229	100,065	123,981	122,729	138,813	143,661
Middlesex	1,238,742	1,280,235	1,397,268	1,397,524	1,367,034	1,366,744
Nantucket	3,559	3,714	3,774	5,559	5,087	5,739
Norfolk	510,256	560,137	605,051	620,346	606,587	605,013
Plymouth	248,449	292,697	333,514	377,500	405,437	427,488
Suffolk	791,329	706,216	735,190	724,703	650,142	656,557
Worcester	583,228	609,909	637,969	640,058	646,352	656,536

\*Source: Massachusetts Institute for Social and Economic Research (MISER).

**TABLE F-3**  
**MASSACHUSETTS POPULATION BY CITY AND TOWN**  
**1970 and 1980**

<i>City/Town</i>	<i>1970 U.S. Census</i>	<i>1980 U.S. Census</i>	<i>City/Town</i>	<i>1970 U.S. Census</i>	<i>1980 U.S. Census</i>
Abington	12,334	13,517	Cohasset	6,954	7,174
Acton	14,770	17,544	Colrain	1,420	1,552
Acushnet	7,767	8,704	Concord	16,148	16,293
Adams	11,772	10,381	Conway	998	1,213
Agawam	21,717	26,271	Cummington	562	657
Alford	302	394	Dalton	7,505	6,797
Amesbury	11,388	13,971	Danvers	26,151	24,100
Amherst	26,331	33,229	Dartmouth	18,800	23,966
Andover	23,695	26,370	Dedham	26,938	25,298
Arlington	53,524	48,219	Deerfield	3,850	4,517
Ashburnham	3,484	4,075	Dennis	6,454	12,360
Ashby	2,274	2,311	Dighton	4,667	5,352
Ashfield	1,274	1,458	Douglas	2,947	3,730
Ashland	8,882	9,165	Dover	4,529	4,703
Athol	11,185	10,634	Dracut	18,214	21,249
Attleboro	32,907	34,196	Dudley	8,087	8,717
Auburn	15,347	14,845	Dunstable	1,292	1,671
Avon	5,295	5,026	Duxbury	7,636	11,807
Ayer	8,325	6,993	East Bridgewater	8,347	9,945
Barnstable	19,842	30,898	East Brookfield	1,800	1,955
Barre	3,825	4,102	East Longmeadow	13,029	12,905
Becket	929	1,339	Eastham	2,043	3,472
Bedford	13,513	13,067	Easthampton	13,012	15,580
Belchertown	5,936	8,339	Easton	12,157	16,623
Bellingham	13,967	14,300	Edgartown	1,481	2,204
Belmont	28,285	26,100	Egremont	1,138	1,311
Berkley	2,027	2,731	Erving	1,260	1,326
Berlin	2,099	2,215	Essex	2,670	2,998
Bernardston	1,659	1,750	Everett	42,485	37,195
Beverly	38,348	37,655	Fairhaven	16,332	15,759
Billerica	31,648	36,727	Fall River	96,898	92,574
Blackstone	6,566	6,570	Falmouth	15,942	23,640
Blandford	863	1,038	Fitchburg	43,343	39,580
Bolton	1,905	2,530	Florida	672	730
Boston	641,071	562,994	Foxborough	14,218	14,148
Bourne	12,636	13,874	Framingham	64,048	65,113
Boxborough	1,451	3,126	Franklin	17,830	18,217
Boxford	4,032	5,374	Freetown	4,270	7,058
Boylston	2,774	3,470	Gardner	19,748	17,900
Braintree	35,050	36,337	Gay Head	118	220
Brewster	1,790	5,226	Georgetown	5,290	5,687
Bridgewater	11,829	17,202	Gill	1,100	1,259
Brimfield	1,907	2,318	Gloucester	27,941	27,768
Brockton	89,040	95,172	Goshen	483	651
Brookfield	2,063	2,397	Gosnold	83	63
Brookline	58,886	55,062	Grafton	11,659	11,238
Buckland	1,892	1,864	Granby	5,473	5,380
Burlington	21,980	23,486	Granville	1,008	1,204
Cambridge	100,361	95,322	Great Barrington	7,537	7,405
Canton	17,100	18,182	Greenfield	18,116	18,436
Carlisle	2,871	3,306	Groton	5,109	6,154
Carver	2,420	6,988	Groveland	5,382	5,040
Charlemont	897	1,149	Hadley	3,750	4,125
Charlton	4,654	6,719	Halifax	3,537	5,513
Chatham	4,554	6,071	Hamilton	6,373	6,960
Chelmsford	31,432	31,174	Hampden	4,572	4,745
Chelsea	30,625	25,431	Hancock	675	643
Cheshire	3,006	3,124	Hanover	10,107	11,358
Chester	1,025	1,123	Hanson	7,148	8,617
Chesterfield	704	1,000	Hardwick	2,379	2,272
Chicopee	66,676	55,112	Harvard	12,494	12,170
Chilmark	340	489	Harwich	5,892	8,971
Clarksburg	1,987	1,871	Hatfield	2,825	3,045
Clinton	13,383	12,771	Haverhill	46,120	46,865

**TABLE F-3 (Continued)**  
**MASSACHUSETTS POPULATION BY CITY AND TOWN**  
**1970 and 1980**

<i>City/Town</i>	<i>1970 U.S. Census</i>	<i>1980 U.S. Census</i>	<i>City/Town</i>	<i>1970 U.S. Census</i>	<i>1980 U.S. Census</i>
Hawley	224	280	Montgomery	446	637
Heath	383	482	Mount Washington	52	93
Hingham	18,845	20,339	Nahant	4,119	3,947
Hinsdale	1,588	1,707	Nantucket	3,774	5,087
Holbrook	11,775	11,140	Natick	31,057	29,461
Holden	12,564	13,336	Needham	29,748	27,901
Holland	931	1,589	New Ashford	183	159
Holliston	12,069	12,622	New Bedford	101,777	98,478
Holyoke	50,112	44,678	New Braintree	631	671
Hopedale	4,292	3,905	New Marlborough	1,031	1,160
Hopkinton	5,981	7,114	New Salem	474	688
Hobbsardston	1,437	1,797	Newbury	3,804	4,529
Hudson	16,084	16,408	Newburyport	15,807	15,900
Hull	9,961	9,714	Newton	91,066	83,622
Huntington	1,593	1,804	Norfolk	4,656	6,363
Ipswich	10,750	11,158	North Adams	19,195	18,063
Kingston	5,999	7,362	North Andover	16,284	20,129
Lakeville	4,376	5,931	North Attleboro	18,665	21,095
Lancaster	6,095	6,334	North Brookfield	3,967	4,150
Lanesborough	2,972	3,131	North Reading	11,264	11,455
Lawrence	66,915	63,175	Northampton	29,664	29,286
Lee	6,426	6,247	Northborough	9,218	10,568
Leicester	9,140	9,446	Northbridge	11,795	12,246
Lenox	5,804	6,523	Northfield	2,631	2,386
Leominster	32,939	34,508	Norton	9,487	12,690
Leverett	1,005	1,471	Norwell	7,796	9,182
Lexington	31,886	29,479	Norwood	30,815	29,711
Leyden	376	498	Oak Bluffs	1,385	1,954
Lincoln	7,567	7,098	Oakham	730	994
Littleton	6,380	6,970	Orange	6,104	6,844
Longmeadow	15,630	16,301	Orleans	3,055	5,306
Lowell	94,23	992,418	Otis	820	963
Ludlow	17,580	18,150	Oxford	10,345	11,680
Lunenburg	7,419	8,405	Palmer	11,680	11,389
Lynn	90,294	78,471	Paxton	3,731	3,762
Lynnfield	10,826	11,267	Peabody	48,080	45,976
Malden	56,127	53,386	Pelham	937	1,112
Manchester	5,151	5,424	Pembroke	11,193	13,487
Mansfield	9,939	13,453	Pepperell	5,887	8,061
Marblehead	21,295	20,126	Peru	256	633
Marion	3,466	3,932	Petersham	1,014	1,024
Marlborough	27,936	30,617	Phillipston	872	953
Marshfield	15,223	20,916	Pittsfield	57,020	51,974
Mashpee	1,288	3,700	Plainfield	287	425
Mattapoisett	4,500	5,597	Plainville	4,953	5,857
Maynard	9,710	9,590	Plymouth	18,606	35,913
Medfield	9,821	10,220	Plympton	1,224	1,974
Medford	64,397	58,076	Princeton	1,681	2,425
Medway	7,938	8,447	Provincetown	2,911	3,536
Melrose	33,180	30,055	Quincy	87,966	84,743
Mendon	2,524	3,108	Randolph	27,035	28,218
Merrimac	4,245	4,451	Raynham	6,705	9,085
Methuen	35,456	36,701	Reading	22,539	22,678
Middleborough	13,607	16,404	Rehoboth	6,512	7,570
Middlefield	288	385	Revere	43,159	42,423
Middleton	4,044	4,135	Richmond	1,461	1,659
Milford	19,352	23,390	Rochester	1,770	3,205
Millbury	11,987	11,808	Rockland	15,674	15,695
Millis	5,686	6,908	Rockport	5,636	6,345
Millville	1,764	1,693	Rowe	277	336
Milton	27,190	25,860	Rowley	3,040	3,867
Monroe	216	179	Royalston	809	955
Monson	7,355	7,315	Russell	1,382	1,570
Montague	8,451	8,011	Rutland	3,198	4,334
Monterey	600	818	Salem	40,556	38,220

**TABLE F-3 (Continued)**  
**MASSACHUSETTS POPULATION BY CITY AND TOWN**  
**1970 and 1980**

<i>City/Town</i>	<i>1970 U.S. Census</i>	<i>1980 U.S. Census</i>	<i>City/Town</i>	<i>1970 U.S. Census</i>	<i>1980 U.S. Census</i>
Salisbury	4,179	5,973	West Newbury	2,254	2,861
Sandisfield	547	720	West Springfield	28,461	27,042
Sandwich	5,239	8,727	West Stockbridge	1,354	1,280
Saugus	25,110	24,746	West Tisbury	453	1,010
Savoy	322	644	Westborough	12,594	13,619
Scituate	16,973	17,317	Westfield	31,433	36,465
Seekonk	11,116	12,269	Westford	10,368	13,434
Sharon	12,367	13,601	Westhampton	793	1,137
Sheffield	2,374	2,743	Westminster	4,273	5,139
Shelburne	1,836	2,002	Weston	10,870	11,169
Sherborn	3,309	4,049	Westport	9,791	13,763
Shirley	4,909	5,124	Westwood	12,750	13,212
Shrewsbury	19,196	22,674	Weymouth	54,610	55,601
Shutesbury	489	1,049	Whately	1,145	1,341
Somerset	18,088	18,813	Whitman	13,059	13,534
Somerville	88,779	77,372	Wilbraham	11,984	12,053
South Hadley	17,033	16,399	Williamsburg	2,342	2,237
Southampton	3,069	4,137	Williamstown	8,454	8,741
Southborough	5,798	6,193	Wilmington	17,102	17,471
Southbridge	17,057	16,665	Winchendon	6,635	7,019
Southwick	6,330	7,382	Winchester	22,269	20,701
Spencer	8,779	10,774	Windsor	468	598
Springfield	163,905	152,319	Winthrop	20,335	19,294
Sterling	4,247	5,440	Woburn	37,406	36,626
Stockbridge	2,312	2,328	Worcester	176,572	161,799
Stoneham	20,725	21,424	Worthington	712	932
Stoughton	23,459	26,710	Wrentham	7,315	7,580
Stow	3,984	5,144	Yarmouth	12,033	18,449
Sturbridge	4,878	5,976			
Sudbury	13,506	14,027	STATEWIDE TOTALS	5,689,170	5,737,037
Sunderland	2,236	2,929			
Sutton	4,590	5,855			
Swampscott	13,578	13,837			
Swansea	12,640	15,461			
Taunton	43,756	45,001			
Templeton	5,863	6,070			
Tewksbury	22,755	24,635			
Tisbury	2,257	2,972			
Tolland	172	235			
Topsfield	5,225	5,709			
Townsend	4,281	7,201			
Truro	1,234	1,486			
Tyngsborough	4,204	5,683			
Tyringham	234	344			
Upton	3,484	3,886			
Uxbridge	8,253	8,374			
Wakefield	25,402	24,895			
Wales	852	1,177			
Walpole	18,149	18,859			
Waltham	61,582	58,200			
Ware	8,187	8,953			
Wareham	11,492	18,457			
Warren	3,633	3,777			
Warwick	492	603			
Washington	406	587			
Watertown	39,307	34,384			
Wayland	13,461	12,170			
Webster	14,917	14,480			
Wellesley	28,051	27,209			
Wellfleet	1,743	2,209			
Wendell	405	694			
Wenham	3,849	3,897			
West Boylston	6,369	6,204			
West Bridgewater	7,152	6,359			
West Brookfield	2,653	3,026			

**TABLE F-4**  
**POPULATION ESTIMATES, MASSACHUSETTS\***  
**1980-1989**

AGE GROUP		TOTAL	MALE	FEMALE
0-4	1980	337,215	173,029	164,186
	1981	342,815	175,696	167,119
	1982	348,357	178,322	170,035
	1983	353,950	180,977	172,973
	1984	359,499	183,609	175,890
	1985	365,227	186,336	178,891
	1986	370,644	188,911	181,733
	1987	376,252	191,570	184,682
	1988	381,786	194,198	187,588
	1989	387,387	196,851	190,536
5-9	1980	374,734	191,602	183,132
	1981	382,783	195,479	187,304
	1982	390,776	199,324	191,452
	1983	398,807	203,201	195,606
	1984	406,798	207,044	199,754
	1985	414,982	210,993	203,989
	1986	422,817	214,769	208,048
	1987	430,881	218,653	212,228
	1988	438,839	222,489	216,350
	1989	446,905	226,375	220,530
10-14	1980	461,332	235,669	225,663
	1981	448,375	228,815	219,560
	1982	435,497	222,005	213,492
	1983	422,551	215,154	207,397
	1984	409,663	208,337	201,326
	1985	396,601	201,433	195,168
	1986	383,806	194,672	189,134
	1987	370,866	187,825	183,041
	1988	357,972	181,004	176,968
	1989	345,042	174,164	170,878
15-19	1980	548,239	274,859	273,380
	1981	531,132	265,930	265,202
	1982	514,073	257,012	257,061
	1983	496,969	248,091	248,878
	1984	479,891	239,169	240,722
	1985	462,673	230,178	232,495
	1986	445,754	221,347	224,407
	1987	428,617	212,392	216,225
	1988	411,572	203,504	208,068
	1989	394,454	194,553	199,901
20-24	1980	552,902	270,713	282,189
	1981	542,736	265,216	277,520
	1982	532,642	259,763	272,879
	1983	522,468	254,260	268,208
	1984	512,367	248,792	263,575
	1985	502,121	243,261	258,860
	1986	492,076	237,835	254,241
	1987	481,926	232,344	249,582
	1988	471,801	226,864	244,937
	1989	461,658	221,388	240,270

**TABLE F-4 (continued)**  
**POPULATION ESTIMATES, MASSACHUSETTS\***  
**1980-1989**

AGE GROUP		TOTAL	MALE	FEMALE
25-29	1980	489,175	239,341	249,834
	1981	493,044	240,846	252,198
	1982	496,921	242,357	254,564
	1983	500,792	243,854	256,938
	1984	504,652	245,353	259,299
	1985	508,596	246,889	261,707
	1986	512,411	248,366	264,045
	1987	516,289	249,872	266,417
	1888	520,142	251,362	268,780
	1989	524,037	252,880	271,157
30-34	1980	446,395	217,649	228,746
	1981	457,542	224,039	233,503
	1982	468,636	230,411	238,225
	1983	479,789	236,803	242,986
	1984	490,905	243,186	247,719
	1985	502,135	249,625	252,510
	1986	513,131	255,936	257,195
	1987	524,287	262,335	261,952
	1988	535,400	268,711	266,689
	1989	546,534	275,099	271,435
35-39	1980	348,552	169,502	179,050
	1981	359,341	174,328	185,013
	1982	370,113	179,129	190,984
	1983	380,898	183,950	196,948
	1984	391,654	188,748	202,906
	1985	402,564	193,633	208,931
	1986	413,195	198,363	214,832
	1987	424,014	203,202	220,812
	1988	434,736	207,982	226,754
	1989	445,571	212,824	232,747
40-44	1980	278,748	134,925	143,823
	1981	292,647	141,203	151,444
	1982	306,457	147,434	159,023
	1983	320,348	153,710	166,638
	1984	334,166	159,940	174,226
	1985	348,205	166,286	181,919
	1986	361,903	172,459	189,444
	1987	375,788	178,731	197,057
	1988	389,612	184,965	204,647
	1989	403,489	191,238	212,251
45-49	1980	278,261	134,444	143,817
	1981	282,833	136,275	146,558
	1982	287,346	138,073	149,273
	1983	291,899	139,901	151,998
	1984	296,417	141,708	154,709
	1985	301,088	143,582	157,506
	1986	305,517	145,343	160,174
	1987	310,083	147,175	162,908
	1988	314,588	148,978	165,610
	1989	319,149	150,801	168,348

**TABLE F-4 (continued)**  
**POPULATION ESTIMATES, MASSACHUSETTS\***  
**1980-1989**

AGE GROUP		TOTAL	MALE	FEMALE
50-54	1980	306,574	146,211	160,363
	1981	301,594	143,584	158,010
	1982	296,655	140,958	155,697
	1983	291,665	138,318	153,347
	1984	286,727	135,704	151,023
	1985	281,677	133,039	148,638
	1986	276,790	130,444	146,346
	1987	271,823	127,817	144,006
	1988	266,862	125,190	141,672
	1989	261,894	122,551	139,343
55-59	1980	310,995	145,603	165,392
	1981	305,203	142,750	162,453
	1982	299,475	139,931	159,544
	1983	293,700	137,078	156,622
	1984	287,965	134,260	153,705
	1985	282,086	131,356	150,730
	1986	276,401	128,548	147,853
	1987	270,622	125,709	144,913
	1988	264,891	122,877	142,014
	1989	259,119	120,037	139,082
60-64	1980	277,384	126,323	151,061
	1981	276,091	125,512	150,579
	1982	274,784	124,707	150,077
	1983	273,496	123,894	149,602
	1984	272,181	123,073	149,108
	1985	270,891	122,260	148,631
	1986	269,624	121,478	148,146
	1987	268,307	120,655	147,652
	1988	267,021	119,844	147,177
	1989	265,712	119,037	146,675
65-69	1980	235,574	101,023	134,551
	1981	238,038	101,871	136,167
	1982	240,454	102,695	137,759
	1983	242,917	103,538	139,379
	1984	245,344	104,370	140,974
	1985	247,853	105,241	142,612
	1986	250,240	106,059	144,181
	1987	252,690	106,899	145,791
	1988	255,130	107,734	147,396
	1989	257,569	108,566	149,003
70-74	1980	187,041	73,235	113,806
	1981	189,630	74,235	115,395
	1982	192,183	75,222	116,961
	1983	194,759	76,222	118,537
	1984	197,323	77,210	120,113
	1985	199,983	78,250	121,733
	1986	202,448	79,192	123,256
	1987	205,049	80,195	124,854
	1988	207,588	81,180	126,408
	1989	210,178	82,182	127,996

**TABLE F-4 (continued)**  
**POPULATION ESTIMATES, MASSACHUSETTS\***  
**1980-1989**

AGE GROUP		TOTAL	MALE	FEMALE
75-79	1980	137,828	48,145	89,683
	1981	140,300	48,996	91,304
	1982	142,752	49,844	92,908
	1983	145,222	50,699	94,523
	1984	147,694	51,545	96,149
	1985	150,251	52,437	97,814
	1986	152,579	53,227	99,352
	1987	155,087	54,094	100,993
	1988	157,521	54,928	102,593
	1989	160,009	55,797	104,212
80-84	1980	92,180	28,513	63,667
	1981	93,363	28,809	64,554
	1982	94,522	29,101	65,421
	1983	95,692	29,393	66,299
	1984	96,841	29,682	67,159
	1985	98,073	29,995	68,078
	1986	99,160	30,242	68,918
	1987	100,350	30,547	69,803
	1988	101,479	30,823	70,656
	1989	102,679	31,131	71,548
85+	1980	73,908	20,107	53,801
	1981	75,099	20,191	54,908
	1982	76,276	20,277	55,999
	1983	77,449	20,351	57,098
	1984	78,611	20,426	58,185
	1985	79,867	20,539	59,328
	1986	81,008	20,614	60,394
	1987	82,187	20,695	61,492
	1988	83,343	20,763	62,580
	1989	84,537	20,855	63,682
TOTAL	1980	5,737,037	2,730,893	3,006,144
	1981	5,752,566	2,733,775	3,018,791
	1982	5,767,919	2,736,565	3,031,354
	1983	5,783,371	2,739,394	3,043,977
	1984	5,798,698	2,742,156	3,056,542
	1985	5,814,873	2,745,333	3,069,540
	1986	5,829,504	2,747,805	3,081,699
	1987	5,845,118	2,750,710	3,094,408
	1988	5,860,283	2,753,396	3,106,887
	1989	5,875,923	2,756,329	3,119,594

\*THESE ESTIMATES ARE DERIVED FROM 1980 U.S. CENSUS COUNTS AND PROJECTIONS FOR 1990 PREPARED BY THE MASSACHUSETTS INSTITUTE FOR SOCIAL AND ECONOMIC RESEARCH (MISER).



# APPENDICES



548206



DEPARTMENT OF PUBLIC HEALTH  
REGISTRY OF VITAL RECORDS AND STATISTICS  
STANDARD CERTIFICATE OF LIVE BIRTH

3E REGISTERED NUMBER

1A CERTIFICATE NUMBER  
(DPH USE ONLY)

2 FACILITY NUMBER

1  
OCCURRENCE

22A SOCIAL SECURITY CARD

INITIALS  
22B RESIDENT COPY

YES

INITIALS

FORM R-3 130M 7/90 0151  
CERTIFICATE OF LIVE BIRTH  
MOTHER  
FATHER  
INFORMANT

PLACE OF BIRTH

3B CITY/TOWN

3A FACILITY NAME—IF NOT IN FACILITY, NUMBER AND STREET

NAME

4A FIRST

4B MIDDLE

4C LAST

5 SEX

6A PLURALITY  
(Specify Single, Twin, etc.)6B BIRTH ORDER (If not single,  
Specify Order First, Second, etc.)

7 TIME

M

8 DATE OF BIRTH (Month, Day, Year)

9A SIGNATURE (I Certify that the Child was Born Alive at Date and Time and  
Place Stated)

9B TYPE OR PRINT NAME

9C LICENSE NUMBER

9D NO &amp; STREET

9E CITY/TOWN

9F STATE

9G ZIP CODE

9H DATE SIGNED (Month, Day, Year)

9I TYPE

☐ AT-BIRTH ☐ POST-NATAL ☐ CERTIFIER ONLY

9J TITLE

☐ MD/DO ☐ CNM ☐ OTH RN ☐ MIDWIFE ☐ OTHER

NAME

10A FIRST

10B MIDDLE

10C LAST

10D MAIDEN SURNAME

BIRTHPLACE

11A CITY/TOWN

11B STATE/COUNTRY

12 DATE OF BIRTH (Month, Day, Year)

RESIDENCE 13A NUMBER AND STREET  
(Do not use  
mailing address)

13B CITY/TOWN

13C COUNTY

13D STATE

13E ZIP CODE

NAME

14A FIRST

14B MIDDLE

14C LAST

BIRTHPLACE

15A CITY/TOWN

15B STATE/COUNTRY

16 DATE OF BIRTH (Month, Day, Year)

17A I (WE) CERTIFY THAT THE PERSONAL INFORMATION APPEARING ABOVE IS TRUE AND CORRECT

17B RELATIONSHIP TO CHILD

17C DATE SIGNED (Month, Day, Year)

17D MAILING ADDRESS  
(If different from  
item #13 above)

NUMBER AND STREET

CITY

STATE

ZIP CODE

18 DATE OF RECORD (Month, Day, Year)

19 SUPPLEMENT FILED (Month, Day, Year)

20 CLERK/REGISTRAR

21 CLERK/REGISTRAR DPH USE ONLY

## CONFIDENTIAL INFORMATION — CHAPTER 111 SECTION 24B AS AMENDED

23A OCCUPATION PAST YEAR	23B INDUSTRY PAST YEAR	24A RACE <input type="checkbox"/> White <input type="checkbox"/> Black <input type="checkbox"/> Asian <input type="checkbox"/> Amer Indian <input type="checkbox"/> Other (Specify)	24B ANCESTRY	25 EDUCATION A Elem /Sec (0-12)   B College (0-4,5+)
26A OCCUPATION PAST YEAR	26B INDUSTRY PAST YEAR	27A RACE <input type="checkbox"/> White <input type="checkbox"/> Black <input type="checkbox"/> Asian <input type="checkbox"/> Amer Indian <input type="checkbox"/> Other (Specify)	27B ANCESTRY	28 EDUCATION A Elem /Sec (0-12)   B College (0-4,5+)
29 PRIOR LIVE BIRTHS A NOW LIVING # <input type="checkbox"/> NONE	B BORN LIVE-NOW DEAD # <input type="checkbox"/> NONE	C DATE OF LAST LIVE BIRTH (Month, Day, Year)	30 TERMINATIONS # <input type="checkbox"/> NONE	DATE LAST TERMINATION (Month, Day, Year)
31B CLINICAL EST GEST WEEKS	32 MONTH OF PREG-PRENATAL CARE BEGAN (First Second etc.)	33 TOTAL NUMBER PRENATAL VISITS # <input type="checkbox"/> NONE	34 WEIGHT GAINED DURING PREG LBS <input type="checkbox"/> NONE	35A TYPE OF PRACTITIONER PROVIDING PRENATAL CARE <input type="checkbox"/> MD/DO <input type="checkbox"/> PA <input type="checkbox"/> NP <input type="checkbox"/> CNM <input type="checkbox"/> OTHER RN <input type="checkbox"/> MIDWIFE <input type="checkbox"/> OTHER (Specify)
35B SITE OF PRENATAL CARE <input type="checkbox"/> PRIVATE <input type="checkbox"/> HOSP CLINIC <input type="checkbox"/> HMO <input type="checkbox"/> CHC <input type="checkbox"/> Other (Specify)	35C PRENATAL CARE METHOD OF PAYMENT <input type="checkbox"/> BLUE CROSS <input type="checkbox"/> COMM INS <input type="checkbox"/> HMO <input type="checkbox"/> MEDICAID <input type="checkbox"/> MEDICARE <input type="checkbox"/> HEALTHY START <input type="checkbox"/> OTHER GOVT <input type="checkbox"/> WORK COMP <input type="checkbox"/> SELF-PAY <input type="checkbox"/> FREE CARE <input type="checkbox"/> OTHER (Spec)			36A ALCOHOL <input type="checkbox"/> 36B TOBACCO <input type="checkbox"/>

36C MEDICAL RISK FACTORS (Separate by commas—Include up to 8 items)

37 METHOD OF DELIVERY  
☐ VAGINAL AFTER ☐ PRIMARY ☐ REPEAT  
☐ VAGINAL ☐ PRIOR C-SECTION ☐ C-SECTION ☐ C-SECTION ☐ FORCEPS ☐ VACUUM38 COMPLICATIONS OF LABOR (Separate by commas—Include up to 10 items)  
AND DELIVERY

39 OBSTETRIC PROCEDURES (Separate by commas—Include up to 10 items)

40 BIRTHWEIGHT

LBS

OZ

OR GRAMS

41 APGAR SCORE (0-10)

A 1 Minute

B 5 Minute

42 DELIVERY PAYMENT ☐ BLUE CROSS ☐ COMM ☐ HMO ☐ MEDICAID ☐ MEDICARE ☐ HEALTHY ST  
☐ OTHER GOVT ☐ WORK COMP ☐ SELF-PAY ☐ FREE CARE ☐ OTHER (Spec)

43 MARRIED?

☐ YES ☐ NO

44 CONGENITAL ANOMALIES (Include up to 5 items)

45 ABNORMAL CONDITIONS OF NEWBORN (Include up to 5 items)

46 CHILD'S

☐ LIVING ☐ DEAD

47 BREASTFEEDING?

☐ YES ☐ NO

48 MOTHER TRANSFERRED PRIOR TO DELIVERY?

☐ NO ☐ YES FROM

49 INFANT TRANSFERRED?

☐ NO ☐ YES TO

50a MOTHER'S SOCIAL SECURITY NUMBER

50b FATHER'S SOCIAL SECURITY NUMBER

Detach and Return to Department of Public Health — Registry of Vital Records and Statistics,  
150 Tremont Street, Room B-3, Boston, MA 02111

(INSTRUCTIONS ON REVERSE SIDE)  
FOR USE BY  
PHYSICIANS AND  
MEDICAL EXAMINERS



# The Commonwealth of Massachusetts

STANDARD CERTIFICATE OF DEATH  
REGISTRY OF VITAL RECORDS AND STATISTICS

REGISTERED NUMBER

STATE USE ONLY

STATE USE ONLY
4a PLACE
4c HOSP
5 TYPE
7 VET
8 HISP RACE
9 EDUC
10 AGE
11 NATIVITY
12 MARITAL
15 RESID
15 OUT-STATE
23 DSP
31-32 AUTOP
33 MED EXAM
34 MANNER
35C WORKING
35F PLACE
36-37 CERT
40A RN PRO

## DECEDENT

## INFORMANT

## DISPOSITION

## CERTIFIER

DECEDENT NAME FIRST MIDDLE LAST		SEX	DATE OF DEATH (Mo., Day, Yr.)	
1 PLACE OF DEATH (City/Town)		2 COUNTY OF DEATH		3 HOSPITAL OR OTHER INSTITUTION - Name (If not in either, give street and number)
4a PLACE OF DEATH (Check only one) <input type="checkbox"/> HOSPITAL <input type="checkbox"/> Inpatient <input type="checkbox"/> ER/Outpatient <input type="checkbox"/> DOA <input type="checkbox"/> OTHER <input type="checkbox"/> Nursing Home <input type="checkbox"/> Residence <input type="checkbox"/> Other (Specify)		6 SOCIAL SECURITY NUMBER		7 IF US WAR VETERAN SPECIFY WAR
5 WAS DECEDENT OF HISPANIC ORIGIN? (If yes, Specify Puerto Rican, Dominican, Cuban, etc.) <input type="checkbox"/> NO <input type="checkbox"/> YES 8a Specify		8b RACE (e.g. White, Black, American Indian, etc.) (Specify)		9 DECEDENT'S EDUCATION (Highest Grade Completed) Elem/Sec (0-12) College (14, 15+)
10a AGE - Last Birthday (Yrs.) UNDER 1 YEAR MOS. DAYS b c		10b UNDER 1 DAY HOURS MINS c d		11 DATE OF BIRTH (Mo., Day, Yr.)
12 MARRIED, NEVER MARRIED WIDOWED OR DIVORCED		13 LAST SPOUSE (If wife, give maiden name)		14a USUAL OCCUPATION (Prior, If retired)
14b KIND OF BUSINESS OR INDUSTRY		15a RESIDENCE NO. & ST., CITY/TOWN COUNTY STATE/COUNTRY		15b ZIP CODE
16 FATHER FULL NAME		17 STATE OF BIRTH (If not in US, name country)		18 MOTHER NAME (GIVEN) (MAIDEN)
19 STATE OF BIRTH (If not in US, name country)		20 INFORMANT'S NAME		21 MAILING ADDRESS NO. & ST. CITY/TOWN STATE ZIP CODE
22 RELATIONSHIP		23 METHOD OF DISPOSITION <input type="checkbox"/> BURIAL <input type="checkbox"/> CREMATION <input type="checkbox"/> ENTOMBMENT <input type="checkbox"/> REMOVAL FROM STATE <input type="checkbox"/> DONATION <input type="checkbox"/> OTH. SPEC		24 FUNERAL SERVICE LICENSEE LICENSE #
25 PLACE OF DISPOSITION (Name of Cemetery, Crematory or other)		26a DATE OF DISPOSITION (Mo., Day, Yr.)		26b NAME AND ADDRESS OF FACILITY
27		28a/b		29 PART I - Enter the diseases, injuries, or complications that caused the death. Do not use only the mode of dying, such as cardiac or respiratory arrest, shock or heart failure. List only one cause on each line (a through d). PRINT OR TYPE LEGIBLY.
IMMEDIATE CAUSE (Final disease or condition resulting in death)		a		Approximate Interval Between Onset and Death
Sequentially list conditions if any leading to immediate cause. Enter UNDERLYING CAUSE (disease or injury that initiated events resulting in death) LAST.		b		
		c		
		d		
PART II - Other significant conditions contributing to death but not resulting in underlying cause given in Part I		30 WAS CASE REFERRED TO M.E.? (Yes or No)		31 WAS AUTOPSY PERFORMED? (Yes or No)
32 MANNER OF DEATH <input type="checkbox"/> NATURAL <input type="checkbox"/> HOMICIDE <input type="checkbox"/> COULD NOT BE DETERMINED <input type="checkbox"/> ACCIDENT <input type="checkbox"/> SUICIDE <input type="checkbox"/> PENDING INVESTIGATION		33 DATE OF INJURY (Mo., Day, Yr.)		34 TIME OF INJURY
35a DESCRIBE HOW INJURY OCCURRED		35b PLACE OF INJURY At home, farm, street, factory, office, bldg, etc. Specify		35c LOCATION (No. & St., City/Town, State)
36a To the best of my knowledge, death occurred at the time, date, and place and due to the cause(s) stated (Signature and Title)		37a On the basis of examination and/or investigation in my opinion death occurred at the time, date, and place and due to the cause(s) stated (Signature and Title)		
36b DATE SIGNED (Mo., Day, Yr.)		36c HOUR OF DEATH		37b DATE SIGNED (Mo., Day, Yr.)
36d NAME OF ATTENDING PHYSICIAN IF NOT CERTIFIER		37c PRONOUNCED DEAD (Mo., Day, Yr.)		37d HOUR OF DEATH
38 NAME AND ADDRESS OF CERTIFYING PHYSICIAN OR MEDICAL EXAMINER (Type or Print)		39 LICENSE NO. OF CERTIFIER		
40a WAS THERE AN RN PRONOUNCEMENT? Yes or No		40b IF YES DATE PRONOUNCED		40c IF YES TIME PRONOUNCED
40d NAME OF PRONOUNCING REGISTERED NURSE		41 SIGNATURE OF HEALTH AGENT		42 CLERK'S SIGNATURE
43 DATE BURIAL PERMIT ISSUED		44 RECEIVED IN THE CITY/TOWN OF		45 DATE OF RECORD

BLACK INK ONLY

R-301-89

# The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC HEALTH  
REGISTRY OF VITAL RECORDS AND STATISTICS

## REPORT OF FETAL DEATH

STATE FILE NUMBER

1a. HOSPITAL - NAME (If not in hospital, give street and number)				1b. CITY, TOWN OR LOCATION OF DELIVERY				1c. COUNTY OF DELIVERY																			
2a. DATE OF DELIVERY (Month, Day, Year)				2b. HOUR OF DELIVERY				3. SEX OF FETUS				6. WEIGHT OF FETUS															
4a. MOTHER - MAIDEN NAME (First Middle Last)								5a. AGE (at time of delivery)				5b. RESIDENCE - STATE				5c. COUNTY											
6a. CITY, TOWN OR LOCATION								6b. STREET AND NUMBER								PREGNANCY HISTORY (Complete each section)											
7. RACE - (e.g. White, Black, American Indian, etc.) (Specify)								8. EDUCATION (Specify only highest grade completed) (Elementary or Secondary (10-12)      College (11, 14 or 15+))				9. DATE LAST NORMAL MENSTRUATION BEGAN (Month, Day, Year)				10. IS MOTHER MARRIED? (Specify yes or no)											
11. MONTH OF PREGNANCY PRENATAL CARE BEGAN (First, second, etc. (Specify))								12. PRENATAL VISITS - Total number (If none, so state)				13a. THIS BIRTH - Single (twins, triplet, etc. (Specify))				13b. IF NOT SINGLE BIRTH - Birth first, second, third, etc. (Specify)				14. DATE OF LAST LIVE BIRTH (Month, Year)				15. DATE OF LAST OTHER TERMINATION (For induced or in 6 or 7 above) (Month, Year)			
16a. FATHER - NAME (First Middle Last)								16b. AGE (at time of delivery)				16c. RACE - (e.g. White, Black, American Indian, etc.) (Specify)				16d. EDUCATION (Specify only highest grade completed) (Elementary or Secondary (10-12)      College (11, 14 or 15+))											

15. PART I First is maternal condition directly causing fetal death  Fetal and/or maternal conditions, if any, giving rise to the immediate cause (a), stating the underlying cause last	15a. IMMEDIATE CAUSE (ENTER ONLY ONE CAUSE PER LINE FOR (a), (b), AND (c))		Specify Fetal or Maternal
	15b. DUE TO, OR AS A CONSEQUENCE OF		Specify Fetal or Maternal
	15c. DUE TO, OR AS A CONSEQUENCE OF		Specify Fetal or Maternal
PART II OTHER SIGNIFICANT CONDITIONS OF FETUS OR MOTHER Conditions contributing to fetal death but not related to cause given in (a)			
16. FETUS DIED BEFORE LABOR DURING LABOR OR DELIVERY UNKNOWN (Specify)		17. PHYSICIAN'S ESTIMATE OF GESTATION (Specify yes or no)	
18. COMPLICATIONS OF PREGNANCY (Describe or write name)		19. COMPLICATIONS OF LABOR AND/OR DELIVERY (Describe or write name)	
20. CONCURRENT ILLNESSES OR CONDITIONS AFFECTING THE PREGNANCY (Describe or write name)		21. CONGENITAL MALFORMATIONS OR ANOMALIES OF FETUS (Describe or write name)	
22. NAME OF PHYSICIAN OR ATTENDANT (Type or print)		23. NAME OF PERSON COMPLETING REPORT (Type or print) TITLE	

24. BURIAL, CREMATION, OR BY HOSPITAL		25. CEMETERY OR CREMATORY - NAME OR WRITE "NONE"		26. LOCATION CITY OR TOWN STATE	
27. NAME OF FUNERAL DIRECTOR (If any)		28. NAME OF FACILITY (Hospital or funeral home)		29. ADDRESS OF FACILITY	

I HEREBY CERTIFY that this delivery occurred on the date stated and product of conception was not a live birth.	
Signature of Attending Physician or Medical Examiner	TITLE

**DEFINITION:** "Fetal death" per chapter 111 section 202 of the M.G.L. means death prior to the complete expulsion or extraction from its mother of a fetus, irrespective of the duration of pregnancy, as indicated by the fact that after such expulsion or extraction the fetus does not breathe or show any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. A fetal death does NOT include an induced abortion as defined in section 12K of chapter 112 of M.G.L. Spontaneous abortions are to be included.

**TO BE REPORTED:** Only fetal deaths of twenty weeks or more gestation or of a weight of 350 grams or more are to be reported.

**INSTRUCTIONS:** Return completed report within 10 days to the Registry of Vital Records and Statistics, Rm. B-3, 150 Tremont St., Boston, MA 02111

**THIS CERTIFICATE IS  
NOT TO BE USED  
OUTSIDE OF  
MASSACHUSETTS.  
NOT VALID AFTER:**

THIS IS A PERMANENT RECORD.  
Use only **durable black ink** or approved  
black typewriter ribbon. Every item of  
information should be carefully supplied.  
ALTERATIONS AND ERASURES IN  
THIS CERTIFICATE ARE FORBID-  
DEN; PENALTY FOR VIOLATION,  
ONE HUNDRED DOLLARS.

MGL CHAP. 207, §§ 28, 28A, 48, 49,  
54, 57 and CHAP. 46, § 18.

☐ **MEDICAL  
CERTIFICATES  
ON FILE**

☐ **COMMISSION  
ON FILE**



**The Commonwealth of Massachusetts**

DEPARTMENT OF PUBLIC HEALTH  
REGISTRY OF VITAL RECORDS AND STATISTICS

**CERTIFICATE OF MARRIAGE**

This certificate must be delivered to the person before whom the  
marriage is to be contracted before he proceeds to solemnize the same

1 Place of Marriage _____ (State file number)		City or Town _____ (City or town making return)		Registered No. _____		Intention No. _____	
2 Date of Marriage _____ (Month) (Day) (Year)				3 FULL NAME _____ GROOM			
3A SURNAME AFTER MARRIAGE _____				12 FULL NAME _____ BRIDE			
4 DATE OF BIRTH _____		5 OCCUPATION _____		13 DATE OF BIRTH _____		14 OCCUPATION _____	
6 RESIDENCE NO. & ST. _____ CITY/TOWN _____		7 ZIP CODE _____		15 RESIDENCE NO. & ST. _____ CITY/TOWN _____		17 ZIP CODE _____	
8 WIDOWED OR DIVORCED (1st, 2nd, 3rd, etc.) _____		9 BIRTHPLACE _____		16 NUMBER OF MARRIAGE (1st, 2nd, 3rd, etc.) _____		17 WIDOWED OR DIVORCED _____	
10 MAIDEN NAME OF MOTHER _____ (City or town) _____ (State or country) _____		11 NAME OF FATHER _____		18 BIRTHPLACE _____		19 MAIDEN NAME OF MOTHER _____ (City or town) _____ (State or country) _____	
21 THE INTENTION OF MARRIAGE by the above-mentioned persons was duly entered by me in the records of the Community of _____ according to law, this _____ day of _____ 19____ <input type="checkbox"/> COURT WAIVER Issued _____ by _____ <input type="checkbox"/> AGE ORDER (Month) (Day) (Year) (City or Town Clerk or Registrar)							
22 I HEREBY CERTIFY that I joined the above-named persons in marriage at No. _____ St. _____ (If marriage was solemnized in a church, give its NAME instead of street and number) Signature _____ on _____ (Month) (Day) (Year) Official station _____ (Minister of the Gospel, Clergyman, Priest, Rabbi, or Justice of the Peace) Residence No. _____ St., City or Town of _____							
23 Certificate recorded by city or town clerk _____ (Month) (Day) (Year) _____ CLERK OR REGISTRAR							

The Commonwealth of Massachusetts  
 DEPARTMENT OF PUBLIC HEALTH  
 REGISTRY OF VITAL RECORDS AND STATISTICS  
 CERTIFICATE OF ABSOLUTE  
 DIVORCE OR ANNULMENT  
 (Chap. 208, Sec. 46 G.L.)  
 R-408

HUSBAND - NAME		FIRST	MIDDLE	LAST
1a. USUAL RESIDENCE - STREET ADDRESS			1b. CITY, TOWN OR LOCATION	
2a. COUNTY	2b. STATE	2c. DATE OF BIRTH (Mo., Day, Yr.)		2d. NUMBER OF THIS MARRIAGE (1st, 2nd, Specify)
WIFE - NAME		FIRST	MIDDLE	LAST
3a. USUAL RESIDENCE - STREET ADDRESS			3b. CITY, TOWN OR LOCATION	
3c. COUNTY	3d. STATE	3e. DATE OF BIRTH (Mo., Day, Yr.)		3f. NUMBER OF THIS MARRIAGE (1st, 2nd, Specify)
4a. DATE OF THIS MARRIAGE (Mo., Day, Yr.)		4b. NUMBER OF CHILDREN BORN ALIVE OF THIS MARRIAGE		4c. NUMBER OF CHILDREN UNDER AGE 18 IN THIS FAMILY
9	10a.	10b.		

<b>FOR COURT USE ONLY</b>			
5a. COUNTY OF JUDGMENT		5b. TITLE OF COURT	
6a. DATE OF JUDGMENT NISI (Mo., Day, Yr.)	6b. TYPE OF JUDGMENT - DIVORCE OR ANNULMENT (Specify)		6c. DATE OF JUDGMENT ABSOLUTE (Mo., Day, Yr.)
7a. DOCKET NUMBER	7b. NAME OF PLAINTIFF		7c. CAUSE FOR WHICH GRANTED
8a. SIGNATURE OF CERTIFYING OFFICIAL		8b. TITLE OF OFFICIAL	
18a.	18b.		





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